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THESIS

CONSTRUCTIVE SIMULATIONS - READINESS ENHANCER OR TRAINING DISTRACTOR?

by

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The reserve components have turned to Training Aids, Devices, Simulators, and Simulations (TADSS) and specifically constructive simulations to offset reduced resources and to enhance unit readiness at the same time.

The reserve components contend that constructive simulations will allow them to train to active-component standards while at the same time saving taxpayer dollars.

Ultimately, the researcher concludes otherwise. Current doctrine needs to be revised to establish a clear sequential relationship between Constructive simulation participation and readiness reporting. Additionally, the leadership of the reserve components needs to understand the importance of having a completed Mission Essential Task List and supporting staff-battle tasks. Once completed, these prioritized training tasks should be used by the commander as his primary focus during constructive simulation exercise play. Organizations that are not prioritizing their collective training tasks are not effectively using constructive simulations.

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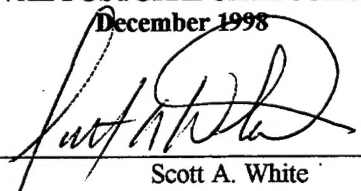
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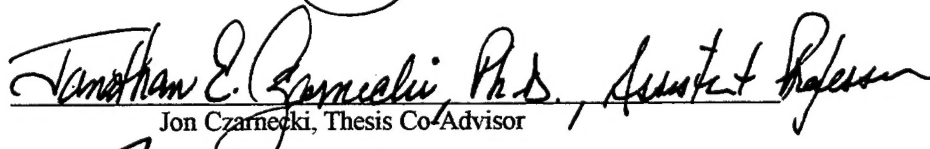
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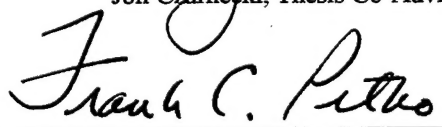
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TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	TRAINING AIDS, DEVICES, SIMULATIONS, AND SIMULATORS (TADSS) AND READINESS REPORTING	9
A.	RESERVE COMPONENT TRAINING GOAL	9
B.	ROLE OF TRAINING AIDS, DEVICES, SIMULATIONS AND SIMULATORS	12
C.	DOCTRINAL GUIDANCE	13
D.	METHODS OF DOCUMENTATION SUPPORTING THE DEPENDENT VARIABLE	15
1.	After Action Review (AAR)	15
2.	Training Assessment Model (TAM)	16
3.	Unit Status Report (USR)	17
E.	READINESS REPORTING AND MEASURES OF THE INDEPENDENT VARIABLES	19
III.	OVERVIEW OF DATA COLLECTION METHODOLOGY	21
A.	DETERMINING UNITS FOR RESEARCH SITES	22
B.	UNIT CHARACTERISTICS	24
1.	Combat Arms (CA) 1 – Armor Battalion	24
a.	The Battalion's Mission Statement	24
b.	Battalion METL and Staff Battle Tasks	24
c.	BBS Exposure	25
2.	Combat Arms (CA) 2 – Armor Battalion	25
a.	The Battalion's Mission Statement	25
b.	Battalion METL and Staff Battle Tasks	26
c.	BBS Exposure	27
3.	Combat Support (CS) 1 – Combat Heavy Engineer Battalion	27
a.	The Battalion's Mission Statement	27
b.	Battalion METL and Staff Battle Tasks	28
c.	BBS Exposure	28
4.	Combat Support (CS) 2 – Mechanized Corps Engineer Battalion	29
a.	The Battalion's Mission Statement	29
b.	Battalion METL and Staff Battle Tasks	29
c.	BBS Exposure	31
C.	ROLE OF AARs, TAM, AND USR COMMENTS	31
1.	Role of the After Action Reviews (AAR)	31
2.	Role of the Training Assessment Model (TAM)	31
3.	Role of the Unit Status Report (USR)	32
D.	ROLE OF THE SURVEY INSTRUMENT	32

IV.	SUMMARY OF DATA COLLECTION	37
A.	AARs, TAM, AND USR COMMENTS	37
1.	CA 1 – Armor Battalion	37
a.	AAR Comments	37
b.	TAM/USR Comments	37
2.	CA 2 – Armor Battalion	39
a.	AAR Comments	39
b.	TAM/USR Comments	39
3.	CS 1 – Combat Heavy Engineer Battalion	40
a.	AAR Comments	40
	(1) What went well?	40
	(2) What didn't go well?	41
b.	TAM/USR Comments	41
4.	CS 2 – Mechanized Corps Engineer Battalion	42
a.	AAR Comments	42
b.	TAM/USR Comments	42
B.	SURVEY INSTRUMENT FINDINGS	43
1.	CA 1 – Armor Battalion	43
a.	Background	44
b.	METL Evaluation	44
c.	BBS Participation	44
d.	BBS Evaluation	45
e.	TAM/USR Assessment	45
2.	CA 2 – Armor Battalion	46
a.	Background	46
b.	METL Evaluation	46
c.	BBS Participation	47
d.	BBS Evaluation	48
e.	TAM/USR Assessment	49
3.	CS 1 – Combat Heavy Engineer Battalion	50
a.	Background	50
b.	METL Evaluation	51
c.	BBS Participation	52
d.	BBS Evaluation	53
e.	TAM/USR Assessment	54
4.	CS 2 – Mechanized Corps Engineer Battalion	54
a.	Background	54
b.	METL Evaluation	55
c.	BBS Participation	55
d.	BBS Evaluation	56
e.	TAM/USR Assessment	57
V.	CASE STUDY ANALYSIS	59
A.	ANALYSIS	59
B.	BACKGROUND	60
C.	METL EVALUATION	61
D.	BBS PARTICIPATION	62
E.	BBS EVALUATION	66
F.	TAM/USR ASSESSMENT	67

VI.	CONCLUSIONS	71
APPENDIX A	BATTLE COMMAND TRAINING PROGRAM (BCTP) SIMULATION SURVEY	77
APPENDIX B	BATTLE COMMAND TRAINING PROGRAM (BCTP)	79
	LIST OF REFERENCES	81
	INITIAL DISTRIBUTION LIST	83

EXECUTIVE SUMMARY

The Cold War's demise has led to a sharpened revision of the National Military Strategy that now concentrates on the two major theaters-of-war concept.

Reduction of the Army's three components (active, reserve, and the National Guard) has led to extensive debate regarding how large the army and its reserve components should be. This debate mirrors the scholarly works of Emory Upton and John McAuley Palmer, which center on the quandary of whether to maintain a large standing army or a small regular army with a significantly large, organized militia.

Decreasing defense allocations do not meet the on-going requirement of maintaining operational readiness, let alone support an increase of global commitments (300 percent increase since 1989) worldwide.

Question's are raised by both critics and political leaders alike regarding both the size of the Army and its reserve components and their ability to deploy combat-ready units in this reduced resource environment. Therefore, both active and reserve components have turned to Training Aids, Devices, Simulators, and Simulations (TADSS) and constructive simulations in particular to offset these readiness concerns.

The reserve components contend that constructive simulations will allow them to train to the active Army standards while saving taxpayer dollars. If the use of constructive simulations is successfully implemented, then scarce defense resources can be transferred from the reserve component while maintaining the ability to execute the National Military Strategy.

In this thesis, I will examine this effort. The key policy question addressed will be: does participation in a constructive simulation exercise facilitate increased readiness of collective-level Mission

Essential Task List (METL) tasks for headquarters and headquarters companies as measured by the Army's Training Assessment Model (TAM) and the Unit Status Report (USR)?

The dependent variable for this thesis is the readiness level of the units. Theoretically, the C-3 rating indicates that a commander is acknowledging his unit's ability to deploy with minimal additional training at the post-mobilization station. The thesis will use two Army-defined measurements of the dependent variable: The Training Assessment Model and the Unit Status report.

The independent variable is the number of exposures the units have had to constructive simulations. While there are other factors that affect readiness besides training (e.g., Military Occupational Skill Qualification (MOSQ), personnel turnover, equipment shortages, and equipment readiness) the Unit Status Report measures the impact of these separately.

I will examine four Army National Guard Battalions – two combat arms and two combat support, with varying levels of exposure to constructive simulations. I will use a survey instrument to allow me to examine whether increased exposures to constructive simulations correspondingly increase unit readiness and whether constructive simulations have the same impact on combat arms and combat-support units.

Ultimately, I conclude that constructive simulations (as they are being presently employed) do not enhance readiness, either as assessed by the Training Assessment Model or by the Unit Status Report. Ignorance regarding the value of having a completed METL and supporting-staff battle tasks and their critical role in effectively using constructive simulations negates any potential for constructive simulations to enhance collective-training readiness.

I. INTRODUCTION

Today's Armed Forces face challenges unanticipated just a decade ago. The collapse of the former Soviet Union and its attendant Warsaw Pact forces have allowed the United States the opportunity to complete the transition from its Cold War National Military Strategy (of a large external threat) to a focused new threat assessment (two major theaters of war), while reducing its budget deficit. Reduction of the active and reserve component-force structures is one of the key steps used in diminishing both our national debt and "right-sizing" the various services to reflect this new National Military Strategy. This transition has proceeded fairly smoothly in all services with the exception of the Army.

The right-sizing of the Army's three components (active, reserve, and National Guard) to reflect this new strategy has led to infighting between the active component, who promote Emory Upton's professionalist nationalist viewpoint (advocating the maintenance of a large standing Army, with little reliance on the reserve component), and the two reserve components (Upton 1917, XIII-XIV), who support a position espoused by John McAuley Palmer, arguing for a large organized militia and a small standing Army (Palmer 1941, 201-207). This debate is creating a complex civil-military relations quandary: how large should the Army and its reserve components be? Which viewpoint supports the current National Military Strategy in the most cost-efficient manner? This is a particularly sensitive issue when the National Guard leadership actively solicits the support of its elected politicians in defending a state's existing force structure, even when such a structure may be more than the National Military Strategy requires.

Economic realities are obviously, that fewer defense dollars (a 38 percent decrease in real dollars since 1989) are being provided to support the Army's on-going equipment modernization program. The need to support global commitments (which have increased more than 300 percent since 1989) has brought to the surface active-component concerns about the reserve component's ability to contribute professional, combat-ready units when called upon. (West 1997, 2-3)

Like its active-duty counterparts, little has changed for the reserve components with respect to increased training time or training dollars or resource allocations being made available to support increasing requirements. Indeed the number of training dollars allocated to the reserve component to support mandatory training requirements has declined, as have funding for maintenance, fuel, and ammunition expenditures. (RSSO NGB 1997, 8) However, the rate of operations, (the Operations Tempo or OPTEMPO) for the reserve components has, in fact, increased. This can be attributed to the reserve-component assumption of what had been active-component missions in the past. With fiscal resources in decline, the reserve components have turned to Training Aids, Devices, Simulations and Simulators (TADSS) in order to maximize available training time and at the same time maintain necessary collective-level (Mission Essential Task List (METL) training-skills proficiency. Additionally, the reserve components are counting on enhanced readiness (as a result of its increasing reliance on TADSS) to offset the active component's fears regarding its ability to deploy combat ready-units on time.

This is where constructive simulations specifically fit into the picture of enhancing unit readiness. The reserve component's training goal, as defined by the Army's Forces Command (FORSCOM) is to train to Army standards, and to provide the nation a unit that can mobilize, demonstrate METL proficiency, deploy, fight and win anywhere in the world (FORSCOM 1995, 3). Participation in constructive simulations will, it is believed, enable the reserve component to train to active-component standards. If successfully implemented, and increased readiness (as a result of using constructive simulations) can be documented, then the nation could shift scarce defense resources from the active-component to reserve-component forces and still successfully prosecute the National Military Strategy. Therefore, through constructive simulations, the Army can theoretically maintain higher levels of readiness by replicating battlefield conditions, and save taxpayer dollars.

Constructive simulation exercises should achieve these benefits by allowing organizations to focus on the specific individual and collective tasks that they will be expected to perform in combat as identified by their battle-focused METL. Constructive simulations are computer-based war games that replicate

warfare and focus primarily on the commander and staff, starting at the battalion level and ending at the Corps level (DA 1997c, 1-2). These constructive simulations focus on two objectives: leader development and collective-task training. The need for continuous leader development is recognized at all levels within the Army structure, as is the need for enhancing individual skill development. Additionally, constructive simulations facilitate organizational team-building, while concomitantly exercising collective task-level skill development.

Potential benefits of constructive simulation participation include:

- Providing the commander with the ability to manipulate the available training variables in order to tailor the training scenario to unit needs.
- Once the initial scenario is built, it can be used repeatedly to facilitate the Army's crawl-walk-run training philosophy (this is also instrumental when conducting After Action Reviews). This allows systematic reinforcement of critical lessons.

However, training distractors can also be a result of constructive simulation exercises. They include:

- Misinterpreting the role of constructive simulations in the overall training strategy.
- Making faulty assumptions regarding the unit's abilities based on the results of its participation.
- Failing to take advantage of the training opportunities to enhance unit readiness.
- Losing sight of the training value that the constructive simulation exercise offers in an effort to "win" the game. (DA 1997c)

The culmination point of constructive simulation participation is the assessment of how well the commander and his staff synchronized and synthesized information while orchestrating battlefield operations (DA 1997b, 1-1). General Dennis Reimer (the Army Chief of Staff) adds that constructive simulation exercises will now be a key component of the Army's training strategy:

In developing a training strategy, each commander must maximize the appropriate simulations and simulators. We can no longer afford to treat simulations and simulators as enhancements. The Army is committed to getting the most out of each. We must trust simulations and simulators, treat them as trade-off to other more expensive training and figure out how to get the most training transfer from each training opportunity. (DA 1997b, 1-1)

The Army has been spending significant amounts of money on constructive simulation development for its existing systems. Yet no studies have been conducted to determine whether or not this money is being effectively spent in the reserve component. Are constructive simulations more cost-effective than conducting exercises in a "true" field environment? Can one predict the point of diminishing returns in their usage? Is there a relationship between constructive simulation participation and readiness? The intent of this thesis is to conduct an exploratory case study of the relationship between constructive simulation participation and collective-level (any task requiring more than one soldier) training readiness as measured by the Training Assessment Model and the Unit Status report.

The key question examined by the thesis is: Does participation in a constructive simulation exercise facilitate increased readiness of collective-level Mission Essential Task List (METL) tasks for headquarters and headquarters companies as measured by the Army's Training Assessment Model (TAM) and the Unit Status Reports (USR)? If this is so, then the reserve components can use these tools to increase and demonstrate their ability to mobilize and deploy combat organizations at the battalion level and higher. This will allow them to alleviate the active Army's concerns regarding its ability to deploy and fight when mobilized for federal service.

The dependent variable is the level of readiness as reported in the training readiness data section of the quarterly Unit Status Report. Unit Status Report ratings run from C-4 through C-1. A C-4 indicates that a unit requires additional resources and training before it can undertake wartime assignments, while a C-1 denotes that the unit possesses all the required resources and is fully trained to accomplish wartime training objectives. (DA 1997a, 15) C-3 indicates, "[t]he unit possesses the required resources and is trained to undertake many, but not all, portions of the wartime mission(s) for which it is organized or designed" (DA 1997a, 15). By relying on this data set, the "playing field is leveled" by virtue of using the Army's own criteria for measuring readiness of a unit. Because other readiness factors (i.e., Military Occupational Skill Qualification (MOSQ), personnel turnover, equipment shortages) are measured in other sections of the Unit Status Report, the training rating measures only training status. Units rated C-4 suffer from severe training

deficiencies and are unlikely to benefit from constructive simulations. Therefore, I will use only units C-3 or above in the research. Each commander is thus indicating in his Unit Status Report that they (the commander and his organization) are able to deploy with minimal additional training at the post-mobilization station and that they have considered and discounted other potential limiting factors. Therefore, the thesis will be using two Army-defined measurements of the dependent variable, the Training Assessment Model and the Unit Status Report itself.

The independent variable of this research will focus on is the number of exposures that the unit has had to constructive simulations. If the C-3 rating on the training readiness data requirements of the USR indeed "levels the playing field," the data should reflect higher readiness values in those units (regardless of being combat arms or combat support) with higher levels of exposure to constructive simulations.

A survey (conducted in the form of an interview) by the researcher was employed to shed additional light on the readiness reporting process and add depth to our understanding of how commanders actually assess their units. The survey instrument addresses the independent variable to determine whether commanders believe that increasing exposures to constructive simulations increases readiness levels. The survey instrument was directed at both the organization's commander and the operations officer (S3). While the commander is ultimately responsible for the assessments given, the operations officer – whose primary responsibilities include planning and recommending future training, as well as oversight of ongoing unit operations – usually carries considerable weight in determining readiness values.

The methodological approach includes case studies of four Army National Guard battalions: two Combat Arms and two Combat Support, with varying levels of exposure to collective-training simulations. The units selected to be part of this have an obligation to participate in a constructive simulation exercise biennially at a minimum (DA 1997b, 1-4). The comparison of combat arms and combat-support units allows me to investigate perceived shortfalls in the existing constructive simulation structure. The table of

contents for the Janus (the current constructive simulation system being used by the reserve components) constructive simulation handbook indicates that training packages have only been developed for combat battalions, artillery, combat engineer, forward support battalions, cavalry troops, and brigade HHC special platoons. The survey instrument allowed the researcher first to compare whether constructive simulations actually enhance the readiness of either the combat arms or combat support units by comparing the results of both units with their combat-arms or combat-support grouping. The researcher then analyzed whether increased simulation exposure (in either group) corresponded to higher readiness values. This examination allowed the researcher to address several issues: Does increased exposure to constructive simulations enhance readiness? Do constructive simulations enhance the readiness of combat-arms and combat-support units equally?

Chapter II explores the relationship between the stated guidelines provided to the reserve components (to meet its readiness and deployability standards) and the reality of how readiness is actually determined and reported. The thesis begins with the training guidance provided by the Army's Forces Command — whose responsibility it is to outline training responsibilities and determine how training assessments are to be evaluated — regarding what the priority training goals for the reserve component are. The thesis then explores the role of Training Aids, Devices, Simulations, and Simulators (TADSS) in accomplishing these priority missions. Finally, the chapter systematically surveys the various techniques of documenting and assessing unit performance in relation to its constructive simulation participation, and specifically relates what relevance each has in reporting training-readiness data on the Unit Status Report.

Chapter III provides an overview of the data-collection methodology used in this thesis. It explains in depth how units were selected and defines where the line is drawn between high and low exposure to constructive simulation exercises. The chapter briefly explores some of the unit characteristics of the four test battalions. They are designated as CA 1 and CA 2 (CA will be used as a synonym for Combat Arms) and as CS 1 and CS 2 (Combat Support 1 and 2). The chapter details which constructive simulation the selected units participated in, which constructive simulation exercises they have been

exposed too, and how often they have participated in a constructive simulation exercise since 1 January 1995. At this point, the significance of the various After Action Reviews (AARs), Training Assessment Models (TAM), the Unit Status report (USR), and the survey instrument becomes apparent.

Chapter IV summarizes the data collected by the researcher for the After Action Reviews, the Training Assessment Models, the Unit Status Reports, and the Survey Instrument. Chapter V then completes the case study analysis of the data summarized in Chapter IV.

Chapter VI draws conclusions on the data presented in the case study analysis. The researcher concludes that constructive simulations (as they are presently being used) may be excellent staff-training instruments, but do not enhance readiness with respect to either the Training Assessment Model or the Unit Status Report. Incomplete Mission Essential Tasks Lists and supporting battle-staff development, combined with the lack of understanding of the METLs role in prioritizing the use that constructive simulation exercise has, makes it ineffective in enhancing the organization's priority collective-training tasks.

II. TRAINING AIDS, DEVICES, SIMULATIONS, AND SIMULATORS (TADSS) AND READINESS REPORTING

This chapter first will describe the process of determining the Reserve Components' training goal. It then outlines the role of TADSS in supporting this goal and how constructive simulations specifically address this same issue. Finally, the chapter gives an overview of the documents supporting the dependent variable and how the survey instrument fleshes out the process of readiness reporting and what impact the independent variable has on the readiness-reporting process.

Figure 2.1, The Training Assessment Process, describes the events and the sequential relationship that the army has established, from participation in a constructive simulation exercise to how it is reported as a readiness indicator on a unit's quarterly USR.

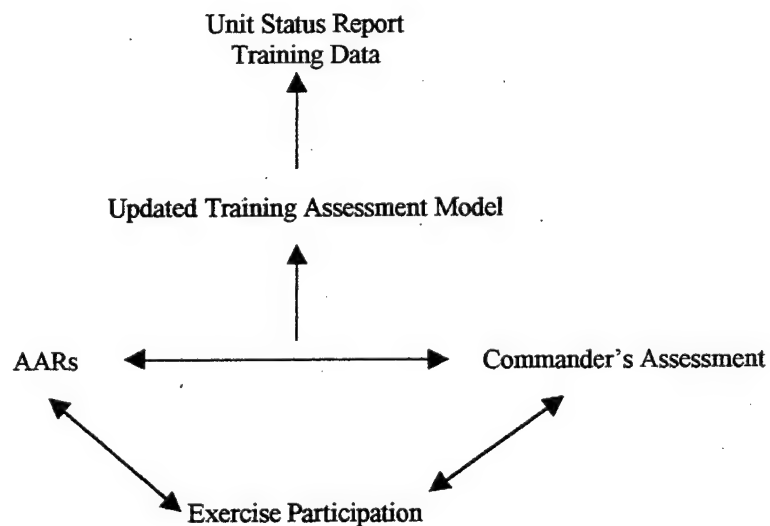


Figure 2.1 The Training Assessment Process

A. RESERVE COMPONENT TRAINING GOAL

The Department of the Army (DA) determined (as a result of their limited amount of training time) that it needed to establish a separate training goal for the reserve components. Therefore, the DA gave its Forces Command the responsibility to develop "realistic" training goals for the Army's Reserve

Components (RC). Forces Command (FORSCOM) shares this joint responsibility with the Chief of the National Guard Bureau (NGB), for providing training guidance for the Army National Guard (ARNG) which, in turn, ultimately supports the National Military Strategy (NMS) (FORSCOM 1995, 3).

Specifically, “[t]he RC training goal is to produce a force trained to the Army standard which results in a unit that can properly mobilize, achieve Mission Essential Task List (METL) proficiency at the level organized, effectively and efficiently deploy, engage the enemy and win anywhere in the world, and redeploy on order.” (FORSCOM 1995, 3)

How a unit commander achieves this goal and maintains proper training focus is a product of the Army’s training-management cycle and is a continuous process of planning for training, execution of that planned training, and then the assessment of the training performed. The Army Training Management Model is represented in Figure 2.2.

This thesis will focus on the assessment stage of the training-management planning cycle. This is critical because this is where the original constructive simulation performance is evaluated. Performance — as measured by reporting C-3 or better (on the training readiness data requirements), and as identified on the quarterly USR — is the dependent variable in which we are interested. The three primary components of the assessment are the Training Assessment Model (TAM), the Organizational Readiness Assessment (ORA), and the Unit Status Report (USR). The ORA is conducted by a team from the Inspector General’s department and validates unit compliance with applicable Army standards and regulations. The TAM and the USR provide both objective and subjective evaluations of a unit’s ability to mobilize and deploy — as specified in FORSCOM’s Reserve Component Training Goals — in support of the National Military Strategy. How these two assessments measure a unit’s ability to deploy and the problematic relationship between the assessment instruments will be two of the questions explored in this thesis.

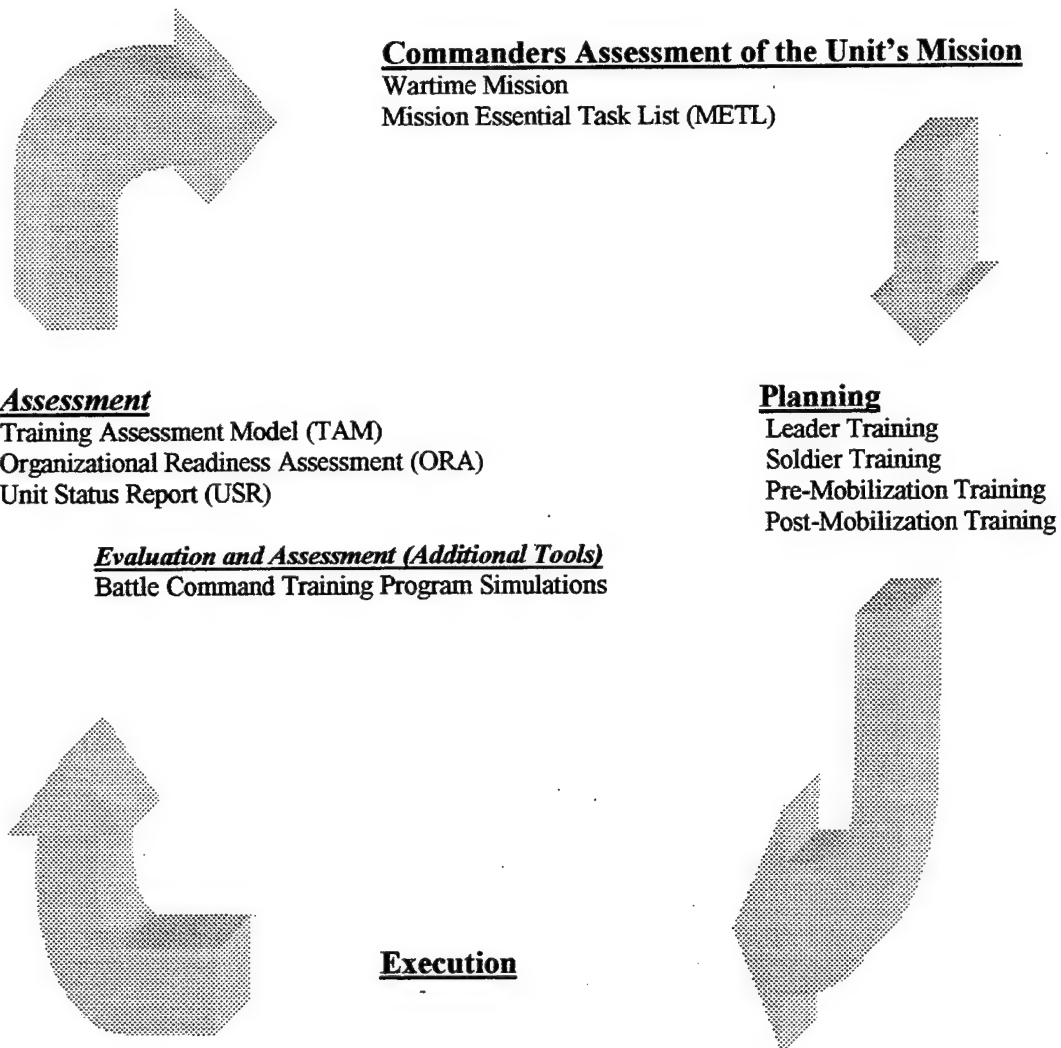


Figure 2.2 Training Management Planning Cycle (After FORCOM 1995, 7)

Figure 2.2 shows the four key elements of the Army's training-management cycle. First and foremost is the commander's initial assessment of the unit's mission. This can be arrived at by the commander through conducting a mission analysis based on the information given to him through external directives and from guidance received by each unit's higher headquarters. From these sources the commander develops his Mission Essential Task List (METL), which "prioritizes" the collective tasks that he must accomplish to execute his mission successfully upon deployment. The development of the organization's METL and supporting staff battle tasks thus identifies the priority collective and individual tasks that the organization should be focusing its efforts on. Once the METL is complete, the S3

(Operations Officer) develops a training plan that will focus the unit's energies on training to standard, based on the identified collective METL tasks.

Upon the commander's acceptance of the S3's training plan, the unit executes the training plan that has been developed. Throughout the execution of the commander's training plan, formal and informal training assessments are taking place. Formal assessments are articulated through the TAM, ORA, and the USR. Feedback throughout the training cycle is continuous. Based on the commander's assessment of his organization, the S3 is given additional guidance on where to focus the unit's energies during the next training cycle. Typically, collective tasks evaluated as *trained* (t) are given less priority during the next training cycle than *needs practice* (p) or *untrained* (u) rated collective tasks. Therefore the training cycle of assessment, planning, and execution is continuous. The commander's assessment of the unit's missions rarely changes unless new mission guidance is received from higher headquarters thus starting the process over again.

B. ROLE OF TRAINING AIDS, DEVICES, SIMULATIONS AND SIMULATORS

The Army has been using various versions of TADSS simulations and simulators for over twenty years. TADSS theoretically replicates realistic battlefield conditions to facilitate an experiential learning experience. (ARI 1998a, 2) Battle Command Training Program (BCTP) constructive simulations are supposed to allow commanders to maintain the readiness edge required for headquarters and headquarters-company elements in this resource-constrained environment. Use of these constructive simulations ideally allows for the full integration of the prioritized METL and supporting staff battle tasks, and can help focus on Wartrace (one of the two major theater-of-war scenarios that the army has said commanders should be focusing on) or alternative scenario exercises as directed. Additionally, constructive simulations facilitate conducting AAR's at any point during the exercise to provide objective feedback. FORSCOM's reserve-component training guidance, furthermore, indicates that BCTP constructive simulations should focus on

Mission Essential Task List (METL) and battle-focused tasks for commanders, and their primary staff, and the training of leaders and battle staffs in information management practices. (FORSCOM 1995, 33)

These battle simulations are supposed to provide both realistic and cost-effective ways to train for both command and contingency missions. Additionally, the computer-driven simulation devices can be used at a home station or in a field environment (though this has not necessarily been the case). Currently, the spectrum of BCTP constructive simulations available includes the Corps Battle Simulation (CBS) and the Brigade/Battalion Battlefield Simulation (BBS), which rely primarily on the Janus (Battle-Focused Trainer), ARTBASS (Army Training Battle-Simulation System), and VICTORS (Variable Intensity Computerized Training System) systems. These simulations are intended to strain and train commanders and staffs from every echelon up through the brigade level, while also testing information-management processes from the platoon to the battalion level. (FORSCOM 1995, 33)

C. DOCTRINAL GUIDANCE

The lack of an easily identifiable external threat and a renewed focus on this country's domestic agenda requires new thinking within the defense community regarding the direction to be taken by the Army of tomorrow. The current period of international tranquility has forced the Army to reevaluate its training and resource strategies insofar as how, when few financial resources are available, it will meet this evolutionary transition to new warfighting capabilities in new operating environments. Earlier research by the Army Research Institute (ARI) on determinants of effective unit performance have indicated that realistic field conditions are essential to maintaining unit readiness and field craft skills (ARI 1998a, 1). Fiscal realities and environmental considerations are, however, forcing commanders to find other solutions to maintaining these required skills. Constructive simulations are expected to help bridge the gap. These simulations must, however, be able to integrate various environmental factors, including personnel turnover, force-projection requirements, and individual soldier and collective skill requirements. (ARI 1998b, 1)

The Army's Field Manual (FM) 25-101 Training the Force – Battle Focused Training) suggests ways in which constructive simulations can supplement actual field training:

- By supporting battle- focused METL training with reduced resources.
- By validating battle staff interactions and Standard Operating Procedures (SOPs).
- By exposing battle staffs to scenarios that replicate the battlefield of tomorrow.
- By enhancing information-sharing abilities and hence allowing commanders' additional flexibility. (DA 1990, E-2)

Field Manual 25-100 (Training the Force) states, "Training devices, simulators, and simulations (TADSS) not only provide a means for initial and sustainment training on warfighting fundamentals, but also provide relatively inexpensive preparation for resource-intensive training events." (DA 1988, 4-3)

Major John Krueger, a former exercise coordinator in the Exercise and Simulations Division at Fort Riley, wrote an article for *Military Review* in which he suggests that the key role of constructive simulations is in the training-management process. First and foremost, Krueger suggests that constructive simulations are "exercise drivers," not maneuver trainers. He recommends that these exercises focus on stressing a unit's command, control, and communications. Commanders should not focus on winning the game, but on training their units. He also notes that commanders tend to short-change the process by minimizing train-up time and do not take the time to understand what the simulation exercise can provide as a service to them. The goal of constructive simulations is to provide the staff with real-time and realistic combat stresses that exercise its ability to react using normal staff procedures. (Krueger 1992, 21)

Krueger contends that the AAR is the "single most important event of the simulation-driven exercise" (Krueger 1992, 21). However, he notes, that they are seldom fully exploited. Commanders seem hesitant to halt an exercise to review a critical lesson learned, thus negating the crawl-walk-run training philosophy of the army and losing a training opportunity for the staff. Optimal training objectives might include exercising unit Tactical Standard Operating Procedures (TACSOP) and tracking battle-related activities in both the Tactical Operations Center (TOC) and Administrative Logistics Operations Center

(ALOC). (Krueger 1992, 22) Identifying the commander's training objectives is essential and allows the systems manager to advise the commander on how to structure the exercise most efficiently in order to meet his objectives. The key to the use of constructive simulations lies in that old cliché "prior planning prevents poor performance." (Krueger 1992, 23)

It will be interesting to compare Krueger's arguments regarding the role of constructive simulations with that of what our commanders and S3s say in chapter IV.

D. METHODS OF DOCUMENTATION SUPPORTING THE DEPENDENT VARIABLE

Having reviewed briefly the role that constructive simulations are expected to play in the evaluation and assessment process, we now explore how constructive simulation participation is documented and how this documentation is measured in regards to determining whether a unit meets army readiness standards.

1. After Action Review (AAR)

The Army training standard requires that after every training event an AAR be conducted. The AAR reviews the training that was just conducted and then identifies what went well, what did not go well, and what could be done better next time. This professional discussion allows each participant to review the training objectives and determine for themselves whether or not the objectives of the training were met and why or why not. Part of the process requires that the group's discussion be documented in order to substantiate that the training had indeed taken place and to serve as lessons learned for others who may conduct the same training at a later date. These AARs can also be used by commanders when evaluating whether or not the commander might want to make a subjective change in his evaluation of his unit's ability to achieve its Mission Essential Task List (METL) and the supporting-staff battle tasks. (DA 1990, G-1) The role and use of the AAR as a measurement tool is strictly up to the commander's discretion.

2. Training Assessment Model (TAM)

The first measure of the dependent variable (used as an evaluative tool) is the Training Assessment Model. FORSCOM Regulation 220-3 provides the reserve components with guidance on how they should evaluate and assess training within the reserve component. The evaluation tool selected is the Training Assessment Model. The TAM is suppose to be a living document that should be updated whenever the unit commander has conducted training regardless of whether it is an internal (assessed by the unit commander) or external evaluation (by evaluators senior to the commander being evaluated). At a minimum, the TAM shall be updated whenever a quarterly Unit Status Report (USR) is submitted. Therefore, as a training management tool that reflects the current status of a unit, the TAM provides valuable information in the preparation of an organization's USR. Specifically, for headquarters and headquarters companies, the TAM reflects the commander's assessment of how well the command and staff executes their METL and staff battle tasks. The commander's evaluations should come from, or at least, should reflect how well a unit fares when participating in a BCTP constructive simulation exercise. The evaluation should also reflect any results from formal (external) evaluations as well. Thus, the TAM's focus is on —and is a key determinant of— unit readiness in regards to the formal readiness submission of a unit's quarterly USR. (FORSCOM 1994, 3-4)

Within the TAM, the commander's assessments can be found in both Parts IV and V of the FORSCOM Form 1049-R (TAM). Part IV reflects the battalion-level METL. Part V details the commander's evaluation of his staff's collective battle tasks that support the Unit's METL. Parts IV and V, when combined, give a consolidated listing of the collective company and section tasks required for the unit to be able to complete its METL tasks, which are oriented towards the unit's wartime (Wartrace) mission. A review of these two portions of the FORSCOM Form 1049-R gives a comprehensive assessment of the unit's ability to deploy and fight in regards to its collective METL tasks. (FORSCOM 1994, 27) The commander's assessment of the METL and staff battle tasks is represented by a *Trained* (T), *Needs Practice* (P), or an *Untrained* (U) evaluation. The T, P, or U thus reflects the commander's assessment of his/her staff's ability to execute these battle-focused tasks.

FORSCOM Regulation 220-3, Army National Guard and Army Reserve – Reserve Component Training Assessment, also details a reserve training methodology that places special attention on leader development and training. The idea is to focus training at the most appropriate level. Those levels and the training focus are identified below:

- Combat Arms: Focus should be on the crew/squad/platoon level.
- Combat Support and Combat Service Support (CS/CSS): The focus is at squad/section/platoon level.
- Command and staff training at the battalion level and above is required, but must be balanced with the need for those same key leaders to prepare and conduct unit training.
- Units train to the highest level of proficiency but operate at the level organized. (FORSCOM 1994, 13)

3. Unit Status Report (USR)

The second evaluative tool of the dependent variable is the Unit Status Report. The Army established Army Regulation (AR) 220-1 Unit Status Report as a method to standardize what units are required to report, how reports are prepared, and how reports are submitted. With this standardization in mind, the USR system will provide the National Command Authority (NCA), the Joint Chiefs of Staff (JCS), Headquarters, the Department of the Army (DA), and the intermediate chain of command a quarterly snapshot of commanders' assessments of their units' ability to deploy, fight, and win. (DA 1997a, 7)

The USR itself focuses on four key areas, equipment-on-hand, equipment readiness, training, and personnel. Each of these areas can receive a score — also known as a C rating — between C-1 and C-4. A C-3 is the minimum allowable rating that a unit can maintain and still be considered deployable. A C-4 in any area will, however, downgrade the entire USR to a C-4 rating (thus indicating a unit's inability to meet its minimum mission parameters), unless upgraded by the Commander submitting the report. A C-3 rating tells the Army that,

The unit possesses the required resources and is trained to undertake many, but not all, portions of the wartime mission(s) for which it is organized or designed. The resource or training area status will result in a significant decrease in flexibility for mission accomplishment and will increase the vulnerability of the unit under many, but not all, envisioned operational scenarios. The unit would require significant compensation for deficiencies. (DA 1997a, 15)

C ratings of C-1 and C-2 indicate a higher level of readiness to complete wartime missions.

Army units that are designated as Force Support Package (FSP) units may be required (because of rapid deployment timelines) to maintain and report higher levels of readiness. A C-2 (for FSP units) may be required in all categories versus a C-3 for later-deploying and lower priority units, for example. A C-4 indicates that the unit has not met its minimum readiness requirements and would require additional resources before being considered deployable. (DA 1997a, 15)

In the context of the USR, the thesis focuses on the how the unit's training status is reported. Thus, the researcher concentrated on the training data portion of the USR only. The training data portion (training readiness) of the USR articulates a unit's ability to deploy, fight, and win by demonstrating:

Proficiency is shown by unit and organic sub-elements during recent external evaluations of Army training and evaluation Program (ARTEP) and Army Mission Training Plan (AMTP) standards, training densities at Combat Training Centers (CTC), emergency deployment readiness exercises, field training exercises, command posts exercises, combined arms live-fire exercises, operational readiness exercises, and other training events described in the unit's Combined Arms Training Strategy (CATS). Proficiency is measured in terms of the unit's demonstrated ability to perform the tasks as stated in the approved unit METL but necessary for performance of METL tasks. Proficiency is judged based on performance of tasks to standard. Full METL proficiency is achieved when a unit has attained a trained (T) level of training in all METL tasks, as defined in FM 25-101. (DA 1997a, 39)

Commanders' subjective judgements of their organizations' abilities to successfully execute their METL are evaluated to determine how many additional days of training (upon arrival at the mobilization station) may be required to achieve full METL proficiency. These two assessments are required so that a commander may then establish a T-level for the unit (the T-level is essentially equivalent to the C level that is reported on the consolidated report card). (DA 1997a, 40)

Within the training data-reporting system, there is an area that does address TADSS resource availability specifically. A specific question queries the availability of training areas, facilities and TADSS and their impact on maintaining an appropriate level of OPTEMPO. (DA 1997a, 41)

E. READINESS REPORTING AND MEASURES OF THE INDEPENDENT VARIABLES

As indicated at the beginning of the chapter, figure 2.1 (The Training Assessment Process) captures the sequential building-block approach that takes place after a unit participates in a BCTP constructive-simulation exercise (reproduced below). First, the commander conducts an assessment of whether the unit can execute its unit METL and supporting-staff battle tasks. Part of this assessment includes comments generated from the AAR's conducted throughout the simulation exercise. These are then articulated in an updated TAM, which should then be used as the primary evaluation tool in completing the training data fields in the USR. The USR then articulates to higher echelons the organization's ability to deploy, fight, and win at that specific point in time.

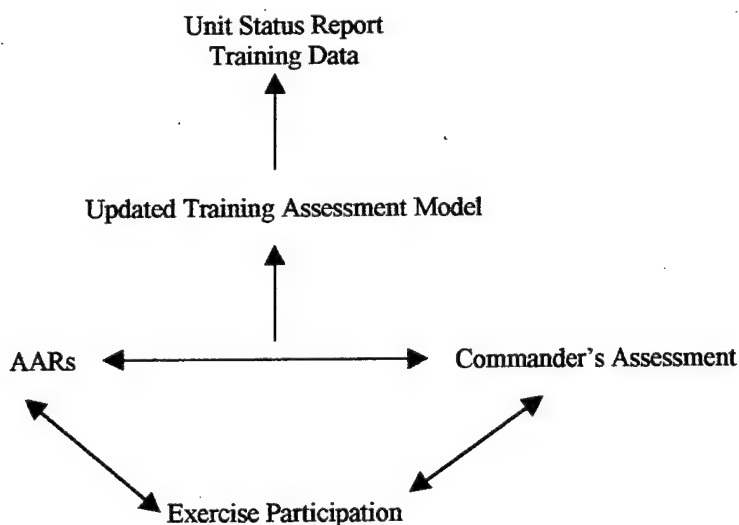


Figure 2.1 The Training Assessment Process

The measures of the dependent variable do not provide the complete picture of how readiness may be arrived at. The independent variable is the number of exposures an organization has had to a

constructive-simulation exercise. The key question for the thesis is whether higher exposure rates result in increased readiness. If the Army's beliefs about the value of TADSS are correct, the case studies will demonstrate that increased exposure leads to increased readiness, regardless of whether the unit is combat arms or combat support. Additionally, the survey instrument enhances and elaborates on the various ratings the commanders gave when assessing their unit's TAM and USR and helps us understand the strengths and weaknesses of constructive simulation usage.

The research will do two things; first, it will examine whether constructive simulation usage increases readiness. Second, the research will identify factors which may reduce the positive effects of constructive simulation usage on unit readiness.

III. OVERVIEW OF DATA COLLECTION METHODOLOGY

In this chapter I will describe how I selected units for the research. I will then describe the individual characteristics of the four units selected for this analysis. I will describe each unit's Mission Statement as extracted from their Modified Table of Organization and Equipment (MTOE), review the battalion's Mission-Essential Task List and the Staff's Battle Tasks (as identified for the primary staff - Personnel, Intelligence, Operations, and Logistics), and summarize the number of times the units have been exposed to constructive simulations, and the type of constructive simulation exercise they participated in (i.e., Janus, ARTBASS, or VICTORS).

The mission statement offers a general orientation to the unit's overall mission in the larger context of the Army. The battalion's METL and supporting-staff battle tasks (as derived from the TAM) suggest the battle-focus orientation of the organization. The METL prioritizes for the battalion (as the staff battle tasks do for the various staff sections) what training it should be focusing its efforts on. The objective of each battalion commander is to achieve a *trained* (T) in every METL task before leaving its mobilization station. When the commander indicates on the USR that they can meet T-level requirements for deployment, he/she is saying they will be at full METL proficiency by the end of period indicated by the days required at the mobilization station.

After describing my data collection methodology in this chapter. I will explore the AAR comments (in Chapter IV) to examine whether the Battalion's METL and staff battle tasks were instrumental in the constructive simulation exercise. Doctrinally (as explained in Chapter II), the constructive simulation should be focusing its exercise on the battalion's priority training tasks (identified as the battalion's METL and support staff battle tasks). Constructive simulation exercise that does not focus its efforts on these priority-training tasks is in effect misusing valuable training time and perhaps even wasting training resources.

In this chapter I will also describe the role of the survey instrument. The commander's comments (from the survey instrument) will shed additional light on the link between constructive simulation usage and C-level ratings reported by the units involved. How the survey instrument is expected to fill in those gaps is elaborated upon in Section D of this chapter. Specifically, the survey instrument will clarify whether or not commanders view their participation in constructive simulation exercises as a useful training tool. The survey instrument will also explore the issue of whether commanders focus constructive simulations on their priority training tasks.

A. DETERMINING UNITS FOR RESEARCH SITES

Ohio Army National Guard units were initially identified to provide both the combat arms and combat support units for this research. This was based on the researcher's familiarity with key personnel at the state and organizational levels. This knowledge allowed the researcher to inform the chain of command directly of his intentions and to contact units directly, as well as to prescreen units in order to verify that they indeed met the minimum eligibility requirements.

Research criteria focused first and foremost on the units reporting a C-3 or better on their training-readiness data fields of the USR. Using C-3 as a minimum value for the dependent variable establishes that the battalion possesses the minimum required resources and training to be deployable. This insures that the other factors which affect readiness including Military Occupational Skill Qualification (MOSQ), personnel turnover, equipment shortages, and reduced OPTEMPO have been taken into account and therefore, do not impede the unit's ability to mobilize successfully and report to the post-mobilization station. Considerations then progressed to identifying the number of exposures the units had to constructive simulations since 1 January 1995. Differentiation between ARTBASS and Janus was not considered since both constructive simulations met the unit's constructive simulation requirement.

However, during the process the researcher had tremendous difficulty in finding units reporting C3 or better. This was compounded by the difficulty in finding units that also had multiple constructive simulation exposures. Finally, the general lack of consistency in record maintenance almost closed the door on the research itself.

The lack of Combat Arms battalions in Ohio meeting C-3 readiness goals in training forced the researcher to consider other data sources. The California Army National Guard was contacted in order to find two combat arms units that could meet minimum eligibility requirements as required by this thesis. The availability of combat arms units that met C-3 mobilization criteria was surprisingly low and caused difficulty in selecting qualified units. Identifying reasons for this lack of readily deployable combat arms organizations could easily justify another thesis. However, these combat arms organizations also happen to occupy the tier 4 and 5 positions of a five-tiered system of resourcing levels with varying degrees of readiness. These units are not expected to be mobilized at an early stage in either of the two major theater-of-war scenarios, if at all, and therefore receive less attention and resources than earlier deploying units. Tiers 1 through 3 are resourced at higher levels of readiness because they are expected to deploy earlier in the Army's scheme of mobilizing units and therefore received more resources proportionally.

In the end, two combat support units were selected from the Ohio Army National Guard and two combat arms units were selected from the California Army National Guard. All units were at C-3 (with one exception discussed later) and had had exposure to constructive simulations within the past three years.

B. UNIT CHARACTERISTICS

1. Combat Arms (CA) 1 – Armor Battalion.

a. The Battalion's Mission Statement (as defined by its Modified Table of Organization and Equipment (MTOE)):

“To close with and destroy enemy forces using fire, maneuver, and shock effect, or to repel his assault by fire and counterattack.”

b. Battalion METL and Staff Battle Tasks

METL Tasks	Commander's Assessment
Battalion METL Tasks.	
<u>MOBILIZE</u>	
Unit Mobilization (Unit Mobilization Plans)	No Evaluation Given
Operate Personnel Administration Center	No Evaluation Given
Perform CSS Operations	No Evaluation Given
<u>CONDUCT COMBAT OPERATIONS</u>	
Attack	No Evaluation Given
Defend	No Evaluation Given
Movement to Contact	No Evaluation Given
<u>CONDUCT SECURITY AND STABILITY OPERATIONS</u>	
Respond to Civil Disturbance	No Evaluation Given
Reconnaissance and Security	No Evaluation Given
Military Operations in Urban Terrain	No Evaluation Given
Use of Essential Equipment	No Evaluation Given

SUSTAIN

Command Supply Discipline Program	No Evaluation Given
Physical Security of Arms, Ammunition, and Explosives	No Evaluation Given
Physical Readiness	No Evaluation Given
Equipment Readiness	No Evaluation Given
Staff Battle Tasks	
S-1 Personnel	None Identified
S-2 Intelligence	None Identified
S-3 Operations	None Identified
S-4 Logistics	None Identified

c. BBS Exposure

The battalion staff had been exposed to two constructive simulation exercises since 1 January 1995. Their exposure was as follows:

<u>Date</u>	<u>Constructive Simulation</u>	<u>Staff Refresher Prior to</u>
No Month Given 1996	Janus	No
No Month Given 1997	Janus	No

2. Combat Arms (CA) 2 – Armor Battalion.

a. The Battalion's Mission Statement:

“To close with and destroy enemy forces using fire, maneuver, and shock effect, or to repel his assault by fire and counterattack.”

b. Battalion METL and Staff Battle Tasks

METL Tasks	Commander's Assessment
------------	------------------------

Battalion METL Tasks.

MOBILIZE

Execute MOB Plan in accordance with

FORMDEPS	No Evaluation Given
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Deploy to MOB site	No Evaluation Given
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Draw Equipment	No Evaluation Given
----------------	---------------------

On Order Deploy OCONUS/CONUS	No Evaluation Given
------------------------------	---------------------

CONDUCT COMBAT OPERATIONS

Occupy Assembly Area	No Evaluation Given
----------------------	---------------------

Perform Tactical Road March	No Evaluation Given
-----------------------------	---------------------

Fight a Meeting Engagement	No Evaluation Given
----------------------------	---------------------

Move Tactically	No Evaluation Given
-----------------	---------------------

Reorganize	No Evaluation Given
------------	---------------------

CONDUCT STABILITY AND SUPPORT OPERATIONS

Conduct Stability Operations	No Evaluation Given
------------------------------	---------------------

Respond to Civil Disturbance	No Evaluation Given
------------------------------	---------------------

Conduct (domestic) Support Operations	No Evaluation Given
---------------------------------------	---------------------

Provide Humanitarian Assistance	No Evaluation Given
---------------------------------	---------------------

Provide Disaster Relief	No Evaluation Given
-------------------------	---------------------

SUSTAIN

Maintain Deployable Strength	No Evaluation Given
------------------------------	---------------------

Command Supply Discipline Program	No Evaluation Given
-----------------------------------	---------------------

Perform CSS Operations	No Evaluation Given
------------------------	---------------------

Operate Combat Trains Command Post	No Evaluation Given
------------------------------------	---------------------

Maintain Physical Security

No Evaluation Given

Staff Battle Tasks

S-1 Personnel

None Identified

S-2 Intelligence

None Identified

S-3 Operations

None Identified

S-4 Logistics

None Identified

c. BBS Exposure

The battalion staff had been exposed to one constructive simulation exercise since 1 January 1996. Unit exposure was as follows:

<u>Date</u>	<u>Constructive Simulation</u>	<u>Staff Refresher Prior to</u>
No Month given 1997	Janus	No

Note: Data regarding the number of exposures to BBS for the two combat arms organizations is based on records maintained by the California Army National Guard's Janus team. An accurate record of constructive simulation exercise exposures has only been maintained since 1 January 1996. Unit records were found to be inadequate and unreliable due to high personnel turnover in the full-time workforce.

3. Combat Support (CS) 1 – Combat Heavy Engineer Battalion.

a. The Battalion's Mission Statement:

"To increase the combat effectiveness of division, corps, and theater Army forces by accomplishing general engineering tasks and limited mobility, countermobility, and survivability tasks. To construct, repair, and maintain main supply routes, landing strips, buildings, structures and utilities. To perform rear area security operations when required."

b. Battalion METL and Staff Battle Tasks

METL Tasks	Commander's Assessment
Battalion METL Tasks.	
Mobilize and Deploy	P
Command and Control Battalion	P
Conduct General Engineer Operations	P
Provide Rear Area Security	U
Sustain and Protect the Battalion	U
Operations Other Than War	P
Staff Battle Tasks	
S-1 Personnel	None Identified
S-2 Intelligence	None Identified
S-3 Operations	None Identified
S-4 Logistics	None Identified

c. BBS Exposure

The battalion staff had been exposed to one constructive simulation exercises since 1 January 1995. Their exposure was as follows:

<u>Date</u>	<u>Constructive Simulation</u>	<u>Staff Refresher Prior to</u>
September 1998	Janus	No

4. Combat Support (CS) 2 – Mechanized Corps Engineer Battalion.

a. The Battalion's mission statement:

“To increase the combat effectiveness of the corps by accomplishing mobility, countermobility, survivability, and sustainment engineering. To perform combat missions in the role of infantry when required. To reinforce heavy brigade and armored cavalry regiment engineer units when required.

b. Battalion METL and Staff Battle Tasks

METL Tasks	Commander's Assessment
Battalion METL Tasks.	
Mobilize and Deploy	P
Sustain the Force	P
Conduct Operations Short of War	P
Conduct Operations in the Main Battle Area	U
Staff Battle Tasks	
S-1 Personnel	
Prepare an Engineer Estimate	U
Prepare an Engineer Annex	U
Conduct Medical Services	P
Prepare Operations Order S1 Annex	P
Supervise Subordinate Units	U
Coordinate with Battalion Main Command Post	P
S-2 Intelligence	
Prepare an Intelligence Annex	U

Plan/Direct Engineer Intel Collection	P
Report Obstacle Information	P
Conduct a Chemical Reconnaissance	U
Conduct a Radiological Recon	U
Prepare an operations order	P
Report Engineer Information	P
S-3 Operations	
Prepare an Engineer Estimate	P
Prepare an Engineer Annex	P
Report Obstacle Information	T
Report Engineer Information	P
Perform Engineer Battlefield Assessment	P
Prepare an Obstacle Plan	P
Prepare OPLANs and OPORDs	T
Control Disaster Relief CONUS	P
Control Area Damage Control Operations	U
Develop and Implement Area Damage Control Plan	U
S-4 Logistics	
Prepare a Logistics Estimate	P
Coordinate with Battalion Main Command Post	P
Perform Logistics Operations	P
Prepare and OPORD Logistics Annex	P
Establish Unit Maintenance Operations	P

c. BBS Exposure

The battalion staff had been exposed to three constructive simulation exercises since 1 January 1995. These were as follows:

<u>Date</u>	<u>Constructive Simulation</u>	<u>Staff Refresher Prior to</u>
June 1995	ARTBASS	No
May 1996	ARTBASS	No
November 1996	ARTBASS	No
February 1998	Janus (cancelled)	No

C. ROLE OF AARs, TAM, AND USR COMMENTS

1. Role of the After Action Reviews (AAR).

As discussed in Chapter II, the Army's desired training standard is to conduct an AAR after each training event. This AAR is intended to review the training that just took place and then dissect what went well, what did not go well, and what could be done better next time. The researcher queried each of the battalions for the AAR comments from their last constructive simulation exercise. The researcher examined the AAR comments for the recapitulation of the constructive simulation exercise and then compared those outcomes with how the Commander rated his unit on his METL (from the TAM).

2. Role of the Training Assessment Model (TAM).

The TAM is suppose to be a living document that reflects the Commander's (current) assessment of his/her organization. This assessment sets the stage for how the battalion reports its readiness (deployability) through the chain of command. Ideally, the TAM will reflect to some degree how well the organization fared during its BBS exercise. While the commander's thought process will not be perfectly

transparent, the survey instrument will allow the researcher to articulate further how commanders and their S3's take the AAR comments into account when updating their individual-unit TAM's.

FORSCOM Regulation 220-3 (Army National Guard and Army Reserve – Reserve Component Training Assessment) — which provides the guidance for evaluating and assessing reserve component readiness — places emphasis on leader development and training as well. The researcher examined the USR and looked for any indications of enhanced readiness as a result of BBS participation.

3. Role of the Unit Status Report (USR).

The USR identifies, for the chain of command, which units are available for immediate deployment, and which are not. The researcher investigated the process as laid out in Chapter II (Training Aids, Devices, Simulations, and Simulators (TADSS) and Readiness Reporting) to see if there was indeed a sequential linkage between BBS participation and readiness reporting that affected deployability of units. The researcher examined the responses of commanders to determine whether they believed there is a connection between participation and readiness reporting for deployability purposes.

D. ROLE OF THE SURVEY INSTRUMENT

The intention of the survey instrument was two-fold. First, to record the thought process commanders used when evaluating their units for both TAM and USR reporting purposes in order to gain insights into whether constructive simulations increase readiness. Both reports are submitted through the chain of command and are a reflection of the commander's assessment of his/her organization. The key here is whether participating in a constructive simulation affects the training status of the unit. Second, the instrument was designed to gather data on the use and value of constructive simulations as training devices.

The survey instrument was reviewed by both Dr. Dana Eyre, Assistant Professor, National Security Affairs Department and LTC (Dr.) Jon Czarnecki, Assistant Professor, Defense Resource Management Institute and pre-tested by two Army officers, one a major in the reserve component, and the other a captain in the active component. The two officers had both been exposed to constructive simulation exercises and had also been involved in USR preparation in some capacity. The survey was presented to these two individuals in the same manner in which the researcher planned to conduct the interviews. The researcher, as the survey administrator, informed both individuals that they were taking part in his pre-test validation. They were asked to read each question (as each question was being read to them) and to make any comments regarding the clarity of what the questions asked, to indicate whether the intent of the question was clear, and then to validate the sequential logic of the questions.

After rewording some of the survey questions, the researcher repeated the interview process with the Army major to practice the interview process and to validate that the rewording of the original questions was indeed more clear and concise (Ulrich 1983, 51-52).

The survey was developed based on criteria established in the following references: Morris Rosenberg's *The Logic of Survey Analysis*; David Ulrich's *Organizational Surveys: Development and Applications*; and Eugene Webb and others, *Unobtrusive Measures: Nonreactive Research in the Social Sciences*.

A copy of the survey instrument is included in *Appendix A Battle Command Training Program (BCTP) Simulation Survey*. The survey instrument has been divided into five subsections. The subsections and the focus of the questions are as stated below:

Background. In this area, the researcher established the organizations the commanders and S3s represented and whether or not the commander and S3 were traditional guard soldiers or members of the full-time support structure for the National Guard. The researcher also determined whether they

participated in the last constructive simulation exercise with the battalion and what role they played during that exercise.

METL Evaluation. The researcher first asked those individuals surveyed whether they had considered any of the AAR comments from their subordinates when evaluating the battalion and staff battle tasks. He then asked what other sources might be considered when assessing the organization's capabilities.

BBS Participation. This series of questions focused on the productivity of participating in the constructive simulation exercise itself. The researcher queried the commanders and S3's as to what other types of training they could have participated in to replicate the same tangible benefits as BBS. The researcher also explored with each interviewee how frequently their organization should have been participating in a constructive simulation exercise.

BBS is the acronym for Brigade/Battalion Battlefield Simulation. Constructive Simulations are more often referred to as BBS at the battalion level. BBS will appear periodically when referring to the survey instrument, because it was used as one of the subsection titles on the survey instrument.

BBS Evaluation. The questions here reflected the interviewee's insights in regards to whether or not the constructive simulation exercises were training distractors, readiness enhancers, or readiness maintainers and why. The researcher also surveyed what the potential benefits were to enhancing command-and-control capabilities from constructive simulation participation.

TAM/USR Assessment. Here the researcher reviewed the role BBS plays for the interviewees in regards to its METL assessment as reflected on their TAM and USR. The researcher also examined whether the constructive simulation has been or should be used for receiving an external evaluation. Lastly, the researcher surveyed the interviewees on their thoughts regarding any tangible linkage between

constructive simulation participation and the USSR, and if constructive simulation development is cost-effective.

The commander and S3 of both the two combat-arms and combat-support battalions were to be interviewed. In the end, all four of the commanders and only three of the four possible S3s could be interviewed. One of the S3 positions had been vacant and the previous S3 was unavailable to interview.

IV. SUMMARY OF DATA COLLECTION

Chapter IV summarizes the results of the data collection for the After Action Reviews, the Training Assessment Models, the Unit Status Reports, and the Survey Instrument for each of the four battalions. The chapter reviews data following the sequential training assessment process laid out in Chapter II. First, I will review the comments reflected in the After Action Review (after completion of the last constructive simulation exercise). This will be followed by an analysis of each unit's abilities to execute their battalion METL and staff battle tasks as depicted by their respective TAM. Third, the unit's training-readiness data will be reviewed for logical progression from the TAM to what is reported on the USR itself. The USR analysis provides the commander's assessment of the organization's ability to deploy, fight and win. Finally, the survey instrument fills in the gaps concerning how the four commanders really feel regarding the ability of constructive simulations to meet TAM and USR readiness objectives.

A. AAR's, TAM's, AND USR COMMENTS

1. CA 1 – Armor Battalion

a. AAR Comments

No AAR comments could be located from the last constructive simulation exercise. A high turnover rate in the full-time support staff explains the inability to locate any of the records.

b. TAM/USR Results

Only battalion-level METL tasks have been developed. The new commander will be pursuing staff METL task development when an S3 officer is assigned. The TAM has also not been developed, as the battalion commander is awaiting the assignment of an S3 to implement its development.

The commander has assessed his unit as a C-4 in the training data field. His "T-level" (the number of days required to meet full METL proficiency) for days required at the mobilization station indicates forty-three days. Typically C-4 units require a minimum of forty-three days or more at the post-mobilization station. The commander falls within the window as far as post-mobilization days required are concerned for the level reported. This is particularly interesting in that the newest commander (and the only one reporting C-4) has assessed that his unit can be combat ready at the minimal number of days that you can report as a C-4 without additional justification. Specific comments supporting his evaluation include: "Training will improve with adequate resourcing to conduct multi-echelon training in a field environment," and "Lack of school funds to attend Non-Commissioned Officers Educational Schools (NCOES) and officer schools (Combined Arms Staff Services School and Armor Officer Advance Course) and Annual Training results in less than fifty percent M1 crew qualification." The unit only began reporting a C-4 in training readiness in the October 1998 reporting period. Prior to that it had reported C-3 or better for the past two years. Furthermore, this unit is expected to make the transition into an enhanced-readiness battalion in the near future. This will move them from a tier 4 or 5 unit to tier 1 or 2.

The unit reported that reduced resources have had a minor impact on the availability of qualified leaders, the availability of training areas, facilities, and training aids, devices, simulators, and simulations, and the availability of time for flying hours. The unit reported major impacts in resource constraints in availability of funds, availability of equipment and material, and availability of aviation fuel. A further elaboration on one of the unit's optional General Text (GENTEX) cards states, "Due to funding shortages for both schools and annual training this battalion cannot fully staff tank crews. If additional Annual Training funds were made available, the battalion's overall crew qualification status would improve." (GENTEX cards can either be required or optional depending on what is being elaborated on. The GENTEX card itself does nothing more than give the commander the opportunity to further elaborate on some aspect of his USR. A code on the card ties the comments to the specific readiness issue being addressed.)

2. CA 2 – Armor Battalion

a. AAR Comments

No AAR comments could be located from the last constructive simulation exercise. Here also, full-time staff turnover explains the inability to produce any AAR comments.

b. TAM/USR Results

Based on my conversations with the Battalion Commander and the lack of a completed supporting-staff METL task list, I contend that using the TAM, as an evaluation tool, was low on his priority list. This can be partially attributed to the fact that the organization is provided its METL by the Brigade staff. The training-year focus is dependent on which METL — there is a three-stage cycle with each cycle having a separate METL orientation — has been prioritized for that training year, and whether or not it is a tank-gunnery year. There is also some justification to the argument that tank-gunnery requirements and the relocation of unit armories (as a result of downsizing) have also had a higher priority within the chain of command. With the exception of an external evaluation completed in 1995, the battalion has not used the TAM as an evaluative tool (externally or internally) for the battalion headquarters.

The commander has, however, taken an active role in the evaluation of the organization with respect to the USR. In regards to the training area, the unit received a C-3 and the commander assessed his unit's "T-Level" (the number of days required to meet full METL proficiency) at forty-two days. This places the unit at the highest end of the C-3 standard of being able to deploy between 29 and 42 days. There were no indications (based on the USR) of requiring additional time for field-training exercises or command-post exercises at echelons above the reporting unit.

Resource constraints were indicated as having a minor impact on training because of inadequacies in assigned strength, availability of funds, availability of equipment or material, and availability of training areas/facilities/training aids, devices, simulators, and simulations. No indication (in the term of an optional GENTEX card) was made as to what those shortfalls were. Again, the commanders are not required to expound on the resource constraints, rather to indicate that a problem exists. All other constraint areas indicated that resource shortfalls were too insignificant to report.

3. CS 1 – Combat Heavy Engineer Battalion

a. AAR Comments

The following comments paraphrase the comments received from the unit's last constructive simulation exercise.

(1) What went well?

- Preparation of the Operations Order and Movement Order prior to the exercise-facilitated staff interaction.

- The exercise promoted staff interaction within each primary staff section.

- The pace of the exercise was accelerated in the Administrative Logistics Operations Center (ALOC) where you have a team that has been together longer versus the Tactical Operations Center (TOC) that has witnessed more personnel turnover and therefore slowed its OPTEMPO to compensate for the adjusted learning curve.

- Communications both internally and externally improved as the exercise progressed.

- The Janus simulation provided a sense of realism for both the TOC and ALOC.

(2) What didn't go well?

- Prior planning of TOC needs and requirements were inadequate.
- Inadequate coordination between the staff and the Janus team resulted in not creating icons for all the participating units. Additionally, company assembly areas had not been preprogrammed; thus the movement plan had to be adjusted at the beginning of the exercise to compensate for the oversight.
- Icons created by the programmers (representing Major End-Items) did not reflect equipment that the units actually had. The programmers tried to substitute end items from divisional engineer units relative to what combat-heavy-engineer units have and use.
- Because the simulation runs in real time and the units started by making a motor movement from their assembly areas forward, the battalion never really had the opportunity actually to command and control engineer operations. Additionally, there was a consensus that had they actually reached the point of which Janus was not configured to accommodate the requirements to provide oversight of combat-heavy engineer operations.
- Many felt that, except for those in the TOC and ALOC, the training value for all other soldiers was minimal.
- During the exercise, command-staff participation was minimal. Only three of the primary staff played their actual roles. One of those was attending his last drill and this lack of participation diminished the effectiveness of the exercise.
- Serious questions were raised concerning whether the Janus would actually facilitate the unit's ability to execute its primary mission of overseeing engineer operations. These concerns were raised based on perceived limitations of the existing software.

b. TAM/USR Comments

The battalion commander's assessment of his METL tasks as reflected on his TAM indicated that his staff needs practice on their ability to *mobilize and deploy, command and control, conduct general engineer operations, and operations other than war. Provide rear area security and sustain and protect the battalion* were evaluated as untrained. The assumption was, therefore, that this training could be accomplished during the next training cycle or as part of his post-mobilization training plan. Neither variable was considered as relevant to this thesis research. There is no indication of breaking down the battalion's METL into relevant supporting staff METL's, as we have seen by his sister engineer battalion. This has apparently had no impact on his evaluation of his unit's ability to deploy within the time restraints imposed by his reported C-rating. The battalion commander assessed the unit's performance as a C-3 in the training data set. The commander further evaluated his "T-Level" (the number of days

required to meet full METL proficiency) at 42 days. By AR 220-1 Unit Status Report standards, a C-3 unit has a target window of between 29 and 42 days to reach full METL proficiency upon arrival at the mobilization station (AR 1997a 41). The USR indicates that the battalion could not report C-1 in training readiness primarily due to personnel shortages within the battalion. Reporting 42 days to reach full METL proficiency, the unit is clearly within allowable time constraints for possible mobilization.

Only availability of funds and availability of equipment were noted as having major and minor impacts (respectively) on the unit's ability to maintain an acceptable OPTEMPO. When asked specifically to address the availability of training areas, facilities, and TADSS, the unit denoted that reduced resources had an insignificant impact on training.

4. CS 2 – Mechanized Corps Engineer Battalion

a. AAR Comments

CS 2 could not find any of their AAR comments within their training records for the last BBS exercise. The BBS simulation center similarly did not have any AAR records on hand.

b. TAM/USR Results

Referring back to the battalion's METL and staff battle tasks from the unit's TAM, the commander assessed *mobilize and deploy, sustain the force, and conduct operations short of war, as needs additional training* (P). *Conducting operations in the main battle area* was listed as *untrained* (U). It appears that the commander assessed that he could complete and reach full METL competency during post-mobilization training.

A review of the USR reflects the battalion commander assessment of his unit as a C-3 in training readiness. The USR further indicated a "T-Level" of 30 days required during post-mobilization. This was within the T-level readiness goals of being between 29 to 42 days. Insufficient training time was the reason indicated for being unable to report C-1 in training readiness (a required remark). CS 2 training readiness indicators reflected that it was in compliance with AR 220-1 readiness objectives.

A review of the reported resource constraints having an impact on the unit's ability to deploy (and therefore affecting readiness) indicated that availability of qualified leaders, availability of training areas, facilities, and TADSS are resource areas having a minor impact on readiness. No other resource constraints were noted. The unit elected to not elaborate further on how these constraints were affecting the organization in its optional free-form GENTEX remarks card.

B. SURVEY INSTRUMENT FINDINGS

It is my intent to capture the flavor of the comments of both the S3 and the commander in this summary of responses to the survey questions. I will note again, however, that the Commander makes the ultimate decisions regarding all readiness indicators, but that he/she often relies on their S3 for advice concerning how that readiness should be reflected.

1. CA 1 – Armor Battalion

A summary of the survey reflected the following:

Note: Combat Arms 1 had been without an S3 for several months and was unsure when a replacement would be assigned. Therefore, only the commander was available for the survey instrument.

a. Background.

The battalion commander had only recently been assigned to the organization and therefore did not participate in the last Janus exercise. The Commander was an Active Guard Reserve (AGR) Soldier serving at the unit. He had five years of service with the active component and had served three years as a full-time Army National Guard officer.

b. METL Evaluation.

When queried regarding the importance of the unit's AAR comments from the last constructive simulation, the commander stated that they played no role in his assessment of his unit's METL. Furthermore, he stated that, with such a short period of time on the job as the new commander, he accepted (without question) the prior commander's METL. The researcher also noted that no assessment of the METL in regards to a T, P, or U had taken place.

c. BBS Participation.

While the commander did not participate with the unit during the last exercise, he had observed other exercises and drawn some conclusions on his own. When asked if his staff had elaborated on their perceptions of the productivity of the Janus exercise, the commander indicated that he had received no objective input regarding the exercise nor did he expect to because his entire staff had turned over since the last exercise.

Regarding other training events that would provide the same training value, he answered that only ARTBASS and status as a player cell in a Brigade-level BCTP exercise were equivalent.

When asked about the frequency of constructive simulation participation and its adequacy in meeting C-3 readiness goals, the commander indicated that the current schedule of participating once a year was adequate given that no other options were available.

d. BBS Evaluation.

When evaluating constructive simulations as a training tool, the commander indicated that when the battalion had a staff that was fully qualified, the constructive simulation was an excellent staff training-maintenance system. Key highlights of the system include its ability to project an external artificial environment that focused on operations order development and the staff decision-making process that took the battalion staff through the process by the numbers. This was important when enhancing his command and control capabilities, because it caused the staff to work together while producing a product, thus enhancing the staff's capabilities.

e. TAM/USR Assessment

The commander made it clear that the constructive simulation exercise did not play a role in evaluation of the unit's METL in regards to either the unit's TAM or USR reports. The commander noted that the TAM and USR encompass a much larger number of factors. This belief was expressed again when he was asked about the simulation exercise's relevance to the training-data fields of the USR and the unit's overall readiness level.

The commander had also never seen a constructive simulation used as a method for receiving an external evaluation, and saw no legitimate use of the exercise for that purpose. As far as the commander was concerned, the exercise in itself was too artificial, because it was conducted in a classroom environment and did not provide the realism that a field environment does.

The commander believed strongly that there was no connection whatsoever between BBS participation and reporting readiness on the USR. However, he did believe that the money spent to date on simulation development does facilitate its usage as a staff-training tool, especially since the opportunities for the staff interaction have not been replicated by any other tools currently available.

2. CA 2 – Armor Battalion

A summary of the survey shows the following:

a. Background.

The S3 was a traditional guard soldier, whose only active-duty time was when serving in the Navy as an enlisted man. He additionally spent five years in the naval reserve before transferring to the Army National Guard and completing the Officer Candidate School program. The S3 did not participate in the unit's last Janus exercise, because he had not yet been assigned to the organization as the S3, but had been exposed to Janus exercises in the past.

The commander (on the other hand) completed five years of active duty in the regular army and then made a rather seamless transition into the Active Guard Reserve (AGR) program with the California National Guard. The commander currently serves full-time at the unit. Additionally, the commander did participate in the last Janus exercise in his current duty position.

b. METL Evaluation.

When queried, the S3 indicated that the AAR comments played no role for him when evaluating the unit in regards to its METL tasks. To date he has not relied on any other external inputs when evaluating the unit's proficiency on METL tasks. His sole focus since joining the organization has

been on the successful completion of tank gunnery range tables, a major pre-mobilization deployment requirement for the battalion.

The commander also indicated that he saw no relationship between how the unit performed in the past (via their AAR comments) and how he would evaluate the battalion's METL tasks. He went on to elaborate that the Division dictated the battalion METL and its focus rotated on a three-year cycle. The first year was focused on offensive operations; the second year on defensive operations; and the third year was oriented toward maneuver. Given the top-down driven METL (where he had no ownership in the development process) and a focus on being able to deploy his organization with companies able to complete tank table eight (platoon-level collective tasks), the Janus exercise only served as a staff trainer for him. Regarding other inputs that helped him assess his organization's unit proficiency, he relied primarily on his experience as an active-duty soldier to observe and evaluate feedback he has received from his subordinates and peers. He also credited the unit's performance as it made the transition from the M60A3 to the new M1 Abrams Battle tank as a method for evaluating unit performance.

c. BBS Participation.

The S3 indicated that the train-up requirements for Janus were productive for the organization prior to its cancellation (due to gunnery requirements). Exposures of the staff to prior simulation was evident during the initial stages of train-up. Overall consensus amongst the staff was that constructive-simulation participation is beneficial for the organization. Based on his past exposure, the S3 concluded that nothing was currently comparable to the Janus as a staff-training vehicle.

The commander concurred that the unit's participation in the constructive simulation exercise was productive. Primarily, it was productive because it facilitated a command-and-control orientation, especially in the areas of logistics and combat-training operations. The commander (in anticipation of the learning opportunity that Janus could provide) conducted a Multiple Unit Training

Assembly (MUTA) period prior to the Janus exercise that had focused on logistic issues specifically. He then used the Janus as a tool to familiarize his staff with the unique needs and requirements of being an M1 tank battalion. He also took the opportunity to stop the exercise on one occasion to impart some important points that he felt were critical. Then, having made his point, he had the Janus team back up the exercise and repeat the scenario just completed while changing some of the parameters, in order that the repeated portion would be similar to, but not exactly like, what they had gone through before.

Non-productive aspects of the exercise included the Brigade Fire Support Officer (FSO) trying to maneuver divisional artillery assets as opposed to directing fire-support missions as per doctrine. This became a matter of controversy between the commander and the Brigade FSO; unfortunately, the FSO was part of a player cell and was acting independently. The Brigade's player cell was also unprepared to participate in the exercise and their lack of preparation was a minor distraction during the training exercise.

Regarding frequency, the S3 and commander both believed that exposure to a constructive simulation twice a year would be optimal, but that once a year was more realistic due to resource constraints and the overhead required to facilitate an exercise successfully. The commander additionally elaborated that only a company or battalion-level external evaluation could replicate the benefits of a Janus exercise.

d. BBS Evaluation.

The S3 said that exposure to constructive simulation both a readiness enhancer and a readiness maintainer, in that, once completed, the exercise allowed for the maintenance of perishable skills. It would enhance skills in a unit that had a high staff turnover-ratio as well. The simulation, from the S3's perspective, forced the staff to work together and learn what was expected of each other in their current duty positions. However, the S3 did not believe the exercise enhanced command-and-control functions due to technical problems with the exercise itself, and because people who would not normally have access to

the decision-making areas of the TOC and ALOC were "wandering through." However, he did feel that Janus as a tool, allowed the S3 and commander to focus on their role in a manner not elsewhere available.

The commander saw the exercise as a training enhancer for the battalion staff. He hoped that additional funds would be put into the simulator to make it less logistically intensive and more user-friendly. As a training vehicle, it forced the battalion staff to use doctrine and exercise their TACSOP, and stressed both areas in a realistic manner.

e. TAM/USR Assessment.

The S3 felt that simulation exposure did not play a role in his evaluation of the unit's METL because he never considered that exercise to be a method to assess the unit's METL. He stated that his input into the actual evaluation of the USR was negligible and was strictly the commander's assessment, and therefore he saw no relationship with the C level reported in the unit's training data fields. The S3 noted that the constructive simulation experience did, however, enhance the unit's overall readiness level in two ways. First, it facilitated staff coordination and understanding of each other's jobs better. Second, it enhanced the unit's ability to react to the state's last flood emergency because of staff coordination skills developed during the exercise. Regarding using the constructive simulation as an external evaluation tool, the S3 suggested that it could be used if units are given the proper train-up time and external support prior to the exercise. However, current staff turnover problems do not make it practical. If a staff could be guaranteed six to twelve months of time together, then it could be used as an evaluative tool.

The commander clearly saw no direct link between constructive simulation participation and either the TAM or the USR. He contended that currently the USR allows the commander to arrive at a readiness level in the training data fields of the USR on judgement alone. Regarding his overall readiness levels he reiterated that it contributed, but did not enhance the unit's overall performance.

When asked whether or not the constructive simulations should be considered a legitimate means to receive an external evaluation, the commander's answer was both yes and no. Yes, it was a legitimate method for evaluation, and no, it could not replace an evaluation in a real-world environment, since training realism is critical for armored organizations. Constructive simulations should remain as the primary tool for training on staff interaction and exercising command and control.

The Operations Officer contended that there was only a minor link between simulation participation and the USR in the training data portion of the USR. He went on to reiterate that constructive simulation facilitated staff cohesion and forced the staff to use the staff decision-making process, and in this regard it was indeed money well spent. The commander reiterated that no relationship existed between the USR and the constructive simulation exercise. Regarding the utility of money spent, the commander believed that Janus was an excellent company, battalion, and brigade level staff training exercise. Unfortunately, the FORSCOM guidance to focus at the platoon level for training purposes does not match well with the battalion's need to report readiness at the battalion level (on the USR) and therefore eliminates any relationship between the USR and Janus participation.

3. CS 1 – Combat Heavy Engineer Battalion

A summary of the survey reflected the following:

a. Background.

The S3 was a traditional guard soldier with an extensive amount of prior active-duty experience. The Commander worked full-time for the Army National Guard (ARNG) at the State Area Command (STARC). The battalion command was an additional responsibility over and above his full-time job, just as it is for traditional guard soldiers. The commander had only served in the reserve component. The S3 was present for the simulation exercise, while the commander attended a mandatory

commander's conference facilitated by the STARC. The Executive Officer (XO) assumed the role of the commander during the exercise.

b. METL Evaluation.

Regarding the use of the AAR comments from the constructive simulation exercise, the S3 felt they were critical to determining the status of each of the METL tasks when assessing whether they should receive a T, P, or U. Furthermore, the S3 indicated that this was one of the key determinants in what the battalion commander had to gauge the staff's abilities. The battalion commander, on the other hand, did not feel the comments would play a significant role in making his decision. He indicated that while the exercise was Wartrace-driven, the simulation exercise never matured beyond the unit's making their initial motor movements from their assembly areas to their area of operations. Therefore, the organization never got the opportunity to exercise any of the battalion's METL tasks. However, he did indicate that the exercise would be used to focus future training events. The commander remarked that the exercise would allow for narrowing the scope of future training and converging on the staff decision-making process.

When asked what other inputs were used for determining unit proficiency, the S3 and commander approached the issue from completely different angles. The S3 suggested that State Active Duty (which supports various domestic emergencies within the state) facilitated staff planning and execution activities. Other inputs included the continuous development of operations orders and oversight of ongoing Inactive Duty Training (IDT) periods and Annual Training (AT) construction missions exercised the staff sufficiently. The commander however, indicated that he would rely on the prior commander's assessment and input from his XO, who had previously served as the S3.

c. BBS Participation.

Regarding the unit's participation in the constructive simulation and its relative productivity, the S3 rated constructive simulations as both productive and as having allowed for exercising the battalion staff in a doctrinally sound manner. Productivity gains included exercising the Tactical Standard Operations Procedure (TACSOP), defining roles and responsibilities among the staff, and identifying support requirements for the non-commissioned officer corps when running the TOC and ALOC. The exercise identified shortfalls in the reporting process, information management, and information analysis processes.

The S3 also identified some non-productive aspects of constructive simulations participation. First was the perception that it took a reserve component staff approximately two days to consolidate itself and to begin to work productively together. Therefore, the exercise ends just as the staff begins to function as a collective team. Inadequate training (of the Janus operators/interactors) by the Janus team prior to the exercise helped cause the artificial slowdown of the exercise as a result of operator input errors. Antiquated reserve-component communications equipment was unreliable, and compounded internal and external information management difficulties. Finally, the S3 concurred with unit AAR comments that the Janus exercise did not support construction-engineer operations. The commander's comments echo many of the S3's comments, especially those on the role of Janus in increasing productivity and exercising the staff in a doctrinally sound manner. The commander also believed that some training realism was achieved, noting that Janus allowed for establishing an environment that facilitated a Wartrace orientation. The commander stated that the key training objective (for him) was exercising the staff's decision-making process. The over-reliance on the combat scenario (based on simulation limitations) was the only non-productive comment expressed by the commander in regards to the battalion's training experience.

When queried on what other types of training events would present the same training value, the S3 suggested that an externally driven engineer exercise or allowing the battalion to supervise construction units during state active duty would pay the largest dividends. The commander concurred overall, but felt that an externally driven engineer exercise would not provide the intensity of a simulation exercise. The commander also believed that he could not replicate the resource intensity or message play of the constructive simulation exercise internally.

On the question of how frequently the battalion should participate in a BBS exercise and whether this was adequate to meet readiness objectives, the S3 believed that (based on the availability of the Janus support team and the number of units required to cycle through) the mandated interval of every eighteen months was adequate. The commander, on the other hand, felt that a yearly exposure to some form of constructive simulation or externally driven exercise was required.

d. BBS Evaluation.

Concerning constructive simulation's role as a training distracter, readiness enhancer, or readiness maintainer, the S3 contended that it was a readiness enhancer. The S3 stated that for the battalion staff, constructive simulation is the best tool available for skill development and developing leadership abilities. The commander concurred, saying that the simulation was essential for staff development and that with continued use it would be essential in maintaining readiness.

On command-and-control (C2) development, both were in concurrence on constructive simulations beneficial aspects. The exercise highlighted C2 issues, as well as communications problems and shortfalls in the TACSOP. One highlight was exposing the company commanders to the requirements and needs of the battalion staff when involved in information-management requirements.

e. TAM/USR Assessment.

Neither the S3 nor commander felt that the simulation exercise played a significant role in assigning values to the METL in regards to the TAM. Both attributed this primarily to the fact that the constructive simulation did not allow for the full execution of the battalion's METL tasks. The commander's assessment had to be based on a much broader range of considerations. The same consensus was reached when asked about its relevance to the USR. Neither saw a direct correlation between simulation participation and reporting readiness as defined by the USR process.

When asked if the constructive simulation exercise should be used for receiving an external evaluation, again both agreed that while the simulation exercises had their benefits, it was not appropriate as an evaluation tool for evaluating a combat-heavy construction battalion. With respect to the question of the efficiency of the money spent on simulation development, the S3 elaborated on the advantages of replicating the intensity of combat operations while the commander focused on developing the decision-making aspects in a combat scenario.

4. CS 2 – Mechanized Corps Engineer Battalion

A summary of the survey reflects the following:

a. Background.

The battalion commander is a member of the full-time support structure for the Army National Guard and worked at STARC just as his peer in the CS 1 unit did. During his command tenure the battalion did not participate in a constructive simulation exercise. An exercise had been scheduled for February 1998, but was cancelled at the Janus support team's request due to "systems errors." The S3 is a

TGS and has spent his entire career in the reserve component. The S3 did participate as the S3 with the battalion in the last constructive simulation exercise that the battalion had participated in, however.

b. METL Evaluation.

When queried about the role of AAR comments from the last exercise, neither the commander nor the S3 took them into consideration when updating the Unit's METL. The S3 considered Lanes training and battalion field-training exercise (training in an actual field environment) as a more valid way to assess unit proficiency. Lanes training is a resource-intensive and lock-step approach (by the numbers) for conducting training, which uses the crawl-walk-run philosophy of training. Needless to say it is also time-intensive. The commander also considered these key indicators, but relied on how well the unit performed during its Annual Training (AT) period as well. The commander emphasized that, for him, the constructive simulation exercise played no significant role in assessing unit performance. The commander further elaborated that, when appraising the METL, he relied on a collective assessment of the organization based on input from his Command Sergeant Major (CSM), S3, Assistant S3, and the XO.

c. BBS Participation.

Regarding the productivity of the unit's last constructive simulation exercise, the S3 considered the exercise to be both non-productive and inadequate in facilitating the organization's ability to exercise itself doctrinally. The S3 elaborated that early in the exercise the ARTBASS automation package crashed. The ARTBASS staff then fell back on a "canned" staff-training exercise that defeated the purpose of introducing outside influences and changed the dynamics of the exercise substantially. The commander, however, noted that any preparation done for constructive simulation was beneficial because of the focus the exercise provided for the staff. Preparation for the exercise promoted staff interaction, allowed for the exercise of internal SOP's, and provided awareness of what more needed to be done.

Other training activities that would provide similar training value included Tactical Exercises Without Troops (TEWT) and short, but intense FTX's, according to comments made by the commander. The S3 concluded that internal staff exercises and instruction during the Officer Development Program (ODP) could, and were compensating for lack of recent exposure to constructive simulations. The S3 went on to comment that based on feedback from his peers, he expected the Janus exercise, in which the battalion is scheduled to participate in March 1999, to be very structured and expected it to be a better training exercise for the battalion staff than previous exercises.

Frequency of exposure to the simulation environment was assessed differently by the commander and his S3. The commander felt that an annual exercise would be optimum with a three-month window of preparation, rehearsal, and pre-exercise taking place before the actual exercise. He expressed concerns, however, regarding trade-offs in that in order to dedicate the necessary time required, some other requirement needed to be "removed from his plate." The worst-case scenario would be the current eighteen-month participation cycle. The S3 explained that the FORSCOM standard of every two years was sufficient as long as staff training was being conducted quarterly and the staff decision-making process was being constantly addressed. The S3 indicated that his perception of the constructive simulation exercise focus on a combat scenario first and foremost guided his recommendation. The feedback he has received from his peers has led him to believe that the constructive simulations have limited usefulness because of their orientation on maneuver versus combat support. Janus does not fully stress a combat-support organization's ability to exercise command and control over subordinate organizations.

d. BBS Evaluation.

When evaluating the usefulness of the constructive simulation exercise, the commander rated the exercise as readiness enhancer in that it exposes the unit to a training event that cannot be fully addressed in another way. The exercise itself integrated the staff (and most importantly the Battle Staff NCO's), forced staff coordination, and provided a more global perspective of the roles of higher and lower

units. The commander did not see the exercise in itself as a readiness maintainer because it was not conducted often enough. The S3 on the other hand saw the exercise as a maintainer of staff proficiency and interaction, which also introduced uncertainty in a manner outside normal training.

On the command-and-control issue, the commander regarded the constructive simulation as essential. The S3's perspective was that the exercise was purely a staff-interaction exercise that also drove internal communication requirements. Again, the S3 felt (based on his exposure to date) that the constructive simulations were not adequate for allowing engineer units to operate in a doctrinally correct manner for exercising command and control.

e. TAM/USR Assessment.

Neither the S3 nor the commander felt that the simulation exposure played a significant role in their evaluation of the METL, TAM, or the USR. Additionally, neither felt there was direct linkage between participation and assessing the unit overall. The commander reiterated that his assessment reflected his command group's evaluation of the organization.

Both did, however, acknowledge some enhancement of the unit's overall readiness as a result of its participation. Generally, both agreed that it enhanced staff interaction, communication, and use of the staff decision-making process.

Both had seen a former Force Support Package 1 unit receive a constructive simulation for an external evaluation (the battalion had provided player-cell personnel for the exercise). The S3 did not believe that the simulation was a legitimate tool for evaluating a unit due to poor software and simulation team oversight of the exercise. The S3 thought that constructive simulations should remain a training device and not an evaluation tool. The commander stated that the concept of using constructive simulation as an evaluation tool had merit as long as it was only approximately only one-fifth of the

assessment. He did express concerns over who oversaw the external evaluation, but did not elaborate further as to what those concerns were.

Neither saw any direct link between constructive simulation exposure and the USR. The commander suggested that the constructive simulation could become more relevant if a constructive simulation lane were established for the battalion headquarters and headquarters units. When asked if the money on simulation development was being well spent, the S3 expressed that he had not participated in a successful simulation exercise to date and, therefore, could not offer an objective opinion. The commander believed the money to have been well spent, especially as OPTEMPO dollars were declining.

V. CASE STUDY ANALYSIS

Chapter V summarizes the data found in chapters III and IV, analyzing the results from all the AARs, TAMS, USR's, and survey instrument findings.

A. ANALYSIS

As seen in Chapter IV (Summary of Data Collection), AAR comments have not been maintained in the historical records in three of the four battalions. Additionally, only two of the four battalions (the combat support units) developed distinct battalion METL's. The two developed METLs demonstrated that the two battalion commanders were at least completing assessments. One of the Armor battalion commanders (CA 2) clearly felt some frustration with a battalion METL that was both top-down driven and rotated on a three-year cycle. The commander of CA 1 also exhibited some degree of frustration in his new role as the commander and trying to get a qualified S3 into place whom he could then use to flesh out the details of a battalion METL and supporting-staff battle tasks. Additionally, neither combat arms commander had assessed the METL tasks they presented to the researcher. Only one battalion, CS 2, had gone to the effort of developing and assessing supporting-staff battle tasks.

Table 5.1, BBS Exposure, summarizes the number of exposures each battalion had to a BBS constructive simulation exercise for the period that accurate records have been maintained. Clearly we see an insignificant difference between the exposure rate of the two combat-support organizations and the two combat-arms battalions. In fact, had CA 2 not cancelled a Janus exercise in the past training year due to "tank gunnery" requirements, the two combat arms units would have had the same number of exposures. Based on the data received from the California Army National Guard Janus Team, combat-arms units appear to be scheduled for a constructive simulation exercise on an annual basis. The Ohio Army National Guard, on the other hand, had scheduled one every eighteen months for every battalion level (regardless of being combat arms, combat support or combat-service support) and higher organization. Additionally, there are no indications (in California) of any combat support or combat service support organizations

having been scheduled for constructive simulation exercise participation since 1 January 1996.

Determination of why this is so is not within the scope of this thesis.

Unit	Numbers of Exposures	Records maintained since
CA 1	2	1-Jan-96
CA 2	1	1-Jan-96
CS 1	1	1-Jan-95
CS 2	3	1-Jan-95

Table 5.1 BBS Exposures

Potential reasons for the gap in BBS exposure between the combat-support organizations include the transition of CS 1 from a Corps Wheeled Engineer Battalion to a Combat Heavy Engineer Battalion configuration. Additionally, the orientation of the current family of constructive simulations on combat operations negates its practical use among other combat-support and combat-service support units. The Janus constructive simulation offers a training package for mechanized engineer battalions, but excludes other engineer-unit configurations. This problem is noted in both CS 1's AAR comments and the S3's survey instrument summary.

The following analysis focuses on the five areas covered in the survey instrument: Background, METL Evaluation, BBS Participation, BBS Evaluation, and TAM/USR Assessment. The researcher will discuss any of the relevant AAR, TAM, and USR comments the analysis of the areas.

B. BACKGROUND.

It is interesting to note that each of the battalion commanders served in a full-time capacity in the Army National Guard, as can be seen in Table 5.2, Data Base Demographics. Yet, only one of the four assigned commanders participated in the unit's last BBS exercise as can be seen in Table 5.3, Participation in Last BBS Exercise. For one of the three, a constructive simulation exercise had been scheduled (and the unit had been making preparations to participate in the exercise) when the Janus Support Team canceled

the simulation exercise. All previous constructive simulation exposures for this battalion and this particular commander were prior to his assumption of command. CA 1's commander had only been recently assigned and therefore was not serving in the organization when it completed its last BBS exercise. In the case of the S3's, two participated, one had not been assigned until after the exercise had been completed, and the other's status was unknown, as the position had been vacant.

Position/Status	Unit			
	CA 1	CA 2	CS 1	CS 2
Battalion Commander - Traditional Guard Soldier				
Battalion Commander - Full Time Support	X	X	X	X
S3 - Traditional Guard Soldier		X	X	X
S3 - Full Time Support				

Note: CA 1's S3 position has been vacant for two months.

Table 5.2 Data Base Demographics

Position	Unit			
	CA 1	CA 2	CS 1	CS 2
Commanders	No	Yes	No	No
S3	NA	No	Yes	Yes

Table 5.3 Participation in Last BBS Exercise

C. METL EVALUATION.

As the reader will note in Table 5.4 below, Consideration of AAR comments in assessing METL tasks, only CS 1's S3 thought that AAR comments had any relevance in assessing the unit's METL tasks. Furthermore, he defined the exercise as one of the key determinants in gauging the staff's abilities to execute its various battle tasks. His answer is a bit perplexing, in that while the CS 1 battalion had developed a METL, no staff battle tasks were provided as part of the TAM. How could the staff focus its actions to support the battalion METL if there had been no evidence of its analysis of what staff actions (battle tasks) were required to support the commander's mission analysis (Battalion METL)? His peers and

the other commanders saw no corresponding relationship between the exercise itself and assessing METL proficiency. The overall trend seemed to be to take a more global perspective in measuring how the “whole” training cycle taxed the staff and how the highs and lows of staff performance played out over the entire period. The doctrinally correct effort to update the unit’s METL and TAM after every training exercise appeared to be nonexistent (based on the results of the survey instrument). Furthermore, two of the four battalions had only superficial METL’s with no further indication by the commander of assessments taking place internally.

Respondents	AAR Used	
	Yes	No
CA 1 Commander		X
CA 1 S3	NA	NA
CA 2 Commander		X
CA 2 S3		X
CS 1 Commander		X
CS 1 S3	X	
CS 2 Commander		X
CS 2 S3		X
Total	1	6

Table 5.4 Consideration of AAR comments in assessing METL tasks

D. BBS PARTICIPATION.

Regarding the positive aspects of BBS participation, the data in Table 5.5, Productivity of BBS Participation shows, that the majority interviewed contended that participation was beneficial. The lone abstainer indicated discontent with ARTBASS, due to numerous failures and the eventual complete failure of the system software during the battalion’s last exercise.

Respondents	Productive	
	Yes	No
CA 1 Commander	X	
CA 1 S3	NA	NA
CA 2 Commander	X	
CA 2 S3	X	
CS 1 Commander	X	
CS 1 S3	X	
CS 2 Commander	X	
CS 2 S3		X
Total	6	1

Table 5.5 Productivity of BBS Participation

Consensus is also apparent that the BBS is an excellent staff trainer that focuses on and forces staff interaction, communication, and command and control. Another positive comment regarded exposing unit player cells to the needs of the staff, as well as the concerns and needs of higher headquarters and adjacent units. Not one comment was made regarding the ability of constructive-simulations exercises to enhance individual skills in one's particular military occupational skill. Perhaps this could be one reason no one saw any direct link between exercise participation and readiness reporting.

Comments about non-productivity centered on the short time frame (a MUTA 5) allotted to conduct an exercise, which is coordination and logistics intensive. This is too short for constructive simulations to be fully exploitable. This is especially true when one also notes the need for resources to transition from civilian life to the military mindset at the same time. The staff has to be literally on the ground and running at the moment the exercise begins.

The other non-productive aspect raised concerned higher-headquarters-assigned personnel who could not perform or implement doctrine correctly during the exercise play.

Potential substitute exercises to replace the BBS family of constructive simulations (as a staff trainer) included resource-intensive external evaluations in a field environment. This is exactly what the army is trying to get away from with its transition to constructive simulations in the crawl-and-walk phase

of training management. A question that was not explored in the survey instrument was an examination of whether this is a reflection of a lack of creativity in creating other potential solutions or a genuine desire that nothing replace the realism of training in the field under actual conditions.

Table 5.6, Recommendations on the Optimal Frequency of Use, provides the commanders and S3s recommendations on the optimal frequency of constructive simulations usage. Table 5.7, Recommendations on the Realistic Frequency of Use, shows realistic expectations for constructive simulation use, tempered by the reality of real-world OPTEMPO considerations for the four surveyed battalions.

Respondents	Recommendations on the Optimal Frequency of Use			
	Biannually	Annually	Every 18 months	Every Two Years
CA 1 Commander		X		
CA 1 S3	NA	NA	NA	NA
CA 2 Commander	X			
CA 2 S3	X			
CS 1 Commander		X		
CS 1 S3			X	
CS 2 Commander		X		
CS 2 S3				X
Total	2	3	1	1

Table 5.6 Recommendations on the Optimal Frequency of Use

Respondents	Recommendations on the Realistic Frequency of Use			
	Biannually	Annually	Every 18 months	Every Two Years
CA 1 Commander		X		
CA 1 S3	NA	NA	NA	NA
CA 2 Commander		X		
CA 2 S3		X		
CS 1 Commander		X		
CS 1 S3			X	
CS 2 Commander			X	
CS 2 S3				X
Total		4	2	1

Table 5.7 Recommendations on the Realistic Frequency of Use

Table 5.6, Recommendations on the Optimal Frequency of Use, indicates consensus supporting a twice yearly or an annual participation rate. This is significantly higher than the FORSCOM guidance of a participation rate of once every two years for all units except those DA-designated as priority and enhanced brigade units. None of the selected units met the criteria. The perception of the commanders on the ground seemed to be strongly in favor of encouraging more constructive simulation participation. When we examined the realistic point of view, we see that Respondents still want a higher rate of exposure. Did the Army base its decision that once every two years was sufficient on resource constraints or on other empirical data of which the researcher is unaware? The researcher is, of course, unsure, but it would seem appropriate that the "do more with less" philosophy and the maximizing of constructive simulations is what General Reimer had in mind when he said:

In developing a training strategy, each commander must maximize the appropriate simulations and simulators. We can no longer afford to treat simulations and simulators as enhancements. The Army is committed to getting the most out of each. We must trust simulations and simulators, treat them as trade-off to other more expensive training and figure out how to get the most training transfer from each training opportunity. (DA 1997b, 1-1)

While commanders recognized that "more is better," concerns regarding how they will maintain routine OPTEMPO requirements for subordinate organizations, while preparing for this logistics- and resource-intense exercise, limit their desires. Respondents, it seems, feel that more exposure to

constructive simulations would greatly assist their training efforts, but recognize the difficulties of using them more often

E. BBS EVALUATION.

As Table 5.8, BBS Evaluation, indicates, no one considered their involvement in constructive simulations to be a training distractor. Strengths of the BBS as a training enhancer and maintainer include its ability to integrate new staff members and to then maintain perishable skills developed from participation in the constructive simulation. The simulation's use as a training vehicle for staff development was almost universally acknowledged. Command-and-control development came in a close second as a key constructive simulation role. Table 5.9, Command and Control Enhanced (this Table reflects commander and S3 positions regarding whether or not constructive simulations area readiness enhancer or not), illustrates this point from a commander's perspective.

Respondents	Net Impact of BBS		
	Training Distractor	Readiness Enhancer	Readiness Maintainer
CA 1 Commander			X
CA 1 S3	NA	NA	NA
CA 2 Commander		X	
CA 2 S3		X	X
CS 1 Commander			X
CS 1 S3		X	
CS 2 Commander		X	
CS 2 S3			X
Total		4	4

Table 5.8 BBS Evaluation

Numerous comments were made, however, by the S3's in the two combat-support units regarding the limited capability of the current BBS systems to integrate engineer-specific command-and-control issues when simulating engineer-specific operations.

Respondents	Impact on Command and Control Abilities	
	Yes	No
CA 1 Commander	X	
CA 1 S3	NA	NA
CA 2 Commander	X	
CA 2 S3		X
CS 1 Commander	X	
CS 1 S3	X	
CS 2 Commander	X	
CS 2 S3		X
Total	5	2

Table 5.9 Command and Control Enhanced

F. TAM/USR ASSESSMENT.

Table 5.10, BBS Role in Evaluation of Unit METL, shows that commanders and S3's saw no connection between BBS participation and the assessment of the Unit's METL training status.

Respondents	BBS Used to Evaluate	
	Yes	No
CA 1 Commander		X
CA 1 S3	NA	NA
CA 2 Commander		X
CA 2 S3		X
CS 1 Commander		X
CS 1 S3		X
CS 2 Commander		X
CS 2 S3		X
Total	0	7

Table 5.10 BBS Role in Evaluation of Unit METL

Four participants never considered using the constructive simulation exercise as an evaluative tool in METL assessment. These four plus two more never considered it an evaluative tool because the Janus exercise never reached the point of exercising any of their METL-related tasks. Commanders seem to share the belief that other considerations also play a role in evaluation of the unit's METL.

As can be seen in Table 5.11, BBS Role in Assessment of a Unit's USR, only CA 2's S3 contended that, since BBS participation facilitates staff coordination, it does have some role in measuring overall unit readiness on the USR. No one else appeared to share this viewpoint nor did anyone see any connection (whatsoever) between constructive simulation participation and USR reporting.

Respondents	Helps Evaluate Training Status		Helps Evaluate Overall Readiness	
	Yes	No	Yes	No
CA 1 Commander		X		X
CA 1 S3	NA	NA	NA	NA
CA 2 Commander		X		X
CA 2 S3		X	X	
CS 1 Commander		X		X
CS 1 S3		X		X
CS 2 Commander		X		X
CS 2 S3		X		X
Total		7	1	6

Table 5.11 BBS Role in the Assessment of a Unit's USR

This viewpoint is further confirmed when we review the information displayed in Table 5.12, Linkage Between BBS and USR. Again, the data shows that a majority of Respondents believe that no direct link exists between constructive simulations and reporting requirements in regards to the USR. Again CS 2's S3 indicates that there is a causal link between BBS participation and the USR.

Respondents	Linkage Between BBS and USR	
	Yes	No
CA 1 Commander		X
CA 1 S3	NA	NA
CA 2 Commander		X
CA 2 S3	X	
CS 1 Commander		X
CS 1 S3		X
CS 2 Commander		X
CS 2 S3		X
Total	1	6

Table 5.12 Linkage Between BBS and USR

How does this all relate to the utility of money spent on constructive simulations? CA 2's commander reiterated that he believed the Janus to be an excellent company, battalion, and brigade staff-training vehicle. But for him, the conflicting FORSCOM guidance to focus at the platoon level (see Chapter II, Training Aids, Devices, Simulators, and Simulations and Readiness Reporting, paragraph D2 page 17) and yet to report USR data at the battalion level eliminated any direct relationship between the USR and Janus participation. Others reflected that it had unlimited utility as a staff-training methodology by promoting staff interaction and use of the staff decision-making matrix. CA 1's commander believed the Janus constructive-simulation exercise to be an effective tool for maintaining a staff that was fully qualified. However, he was critical of its "place in the sun" because of its "artificiality" and use within the classroom environment. Primarily, he was concerned with its inability to recreate the stress and realism present in an actual field environment. In every case, the BBS exercise was conducted in a quasi-classroom-like environment. There was some attempt to make the unit set up their TOC and ALOC outside the BBS facility. However, no one indicated any attempts to use their BBS simulation exercise in a true field environment.

VI. CONCLUSIONS

It is clear from the data in this study that constructive simulation participation does not increase readiness. It is also clear that the battalion commanders did not see any direct linkage between constructive simulation participation and readiness status, regardless of the number of exposures, or how the measurement was evaluated. I expected that the data would have shown an increase in the readiness level of an organization when it had a higher exposure rate to constructive simulations. This was, however, not the case. In the combat-arms organizations we saw the exactly the opposite. CA 2 reported C-3 and yet had one less exposure than CA 1. CA 1 reported C-4 for the first time (after reporting C-3 for the last eight reporting periods consecutively), and neither commander credited constructive simulations with enhancing their readiness level. Both combat-arms commanders noted staff turnover problems; this was not noted in the combat support battalions. The independent variable of increased exposures to constructive simulations did not seem to enhance readiness. Nor did any commander believe there is such a linkage.

In the combat-support organizations the data shows CS 1 with one exposure to constructive simulations and CS 2 reporting three for the same period. Both reported C-3 on their USR, with CS 1 requiring 42 days at the post-mobilization station and CS 2 needing 30 days. Here again neither commander credited constructive simulation participation with enhancing its readiness. However CS 2 had three exposures and needed 12 fewer days at the post-mobilization station. The twelve additional days CS 1 requires could reasonably be explained by the greater density of equipment that a combat-heavy engineer battalion has versus a mechanized engineer battalion.

Therefore, the data analysis shows that there is no relationship between constructive simulation participation and the unit's readiness status. Furthermore, the analysis indicates that the commanders did not see any sequential relationship between constructive simulation participation, the Training Assessment Model, and the Unit Status Report training assessments. With respect to the AAR comments, three of the four commanders did not even have the AAR comments on hand from their last constructive simulation exercise. The fourth commander, who had not participated in the last constructive simulation exercise, did

not evaluate the AAR as having any value when completing his unit's training assessments on either the TAM or USR. This is consistent with the other commander's comments. Universally, the commanders agreed that constructive simulation participation played no role in assessing training on either the TAM or the USR. Thus, it seems that the simulation community's and reserve component's arguments that constructive simulations enhance readiness are not supported by the data.

Within the combat-arms organizations neither unit had a fully developed METL or supporting-staff battle tasks list that should have been used to focus the battalion's efforts on their priority training tasks. The establishment of these prioritized METL and supporting-staff battle tasks would allow the commander to concentrate his unit's constructive simulation efforts on correcting unit deficiencies or on other training that cannot be replicated in any other way.

In the combat-support units both organizations had developed METL tasks (that were assessed), only one of the units had completed the prioritization process by development of supporting-staff battle tasks. Why this is not consistent throughout all the organizations is unclear. The Army's training doctrine has been published since 1990. The identification of these METL tasks and supporting-staff battle tasks is supposed to focus training efforts for the organization (as originally described in figure 2.2 on page 11 in Chapter II). Once identified and prioritized, the organization should be concentrating on executing those tasks and then assessing the tasks as a *trained* (t), *needs practice* (p), or *untrained* (u). The commander (doctrinally) then directs the S3 to focus the next year's training cycle on the *p* and *u* deficiencies. This may be happening in the two combat-support organizations with developed METLs, but it is doubtful in the two combat-arms organizations. The research did not address whether units were following Army doctrine. Furthermore, there was never any clear indication from any of the battalions that the constructive-simulation exercises were indeed focused on these core priority tasks. If the battalions did not focus on their METL and supporting-staff battle tasks, then the constructive simulations' ability to enhance readiness was at best negligible.

Commander comments support the Army Research Institute (ARI) studies contention that realistic field conditions are essential to maintaining unit readiness and field-craft skills (ARI 1998a, 1). The short duration of the exercises does not seem to allow for the integration of other environmental factors including personnel turnover and force-projection requirements deemed essential for maintaining training readiness. This was especially apparent for the combat-arms commanders who saw constructive simulations as a staff-training vehicle as opposed to any kind of a readiness enhancer. The combat-support units voiced similar concerns. Their concerns focused on the inability of the constructive simulations to allow them to simulate command and control in a doctrinally correct manner, due to perceived deficiencies in the computer's software in replicating combat support activities.

Neither combat-arms organization produced a TAM for this research. Battalion METL's for both organizations were provided on a sheet of paper (unassessed) and were not accompanied by supporting-staff battle tasks. On the other hand, the two combat-support units provided completed TAM's. All four commanders, however, universally concurred that participation in the constructive-simulation exercises had no relevance to what was reported on Parts IV and V of their Training Assessment Model.

Major John Krueger's observations (discussed in Chapter II) regarding constructive simulation exercises might be worth revisiting. Krueger contends that constructive simulations should focus on stressing a unit's command, control, and communications, and not on winning the game. Any failure of constructive simulation systems to live up to greater expectations can be attributed to commanders who short-change the process by minimizing train-up time and did not take the time to understand what the simulation exercise could provide as a service to the organization overall. (Krueger 1992, 21) Krueger's comments are supported by this research.

The survey instrument revealed that only one of the four commanders participated in the last constructive simulation exercise. Another commander had the opportunity, but attended a commander's call instead. My comments in earlier paragraphs highlight the importance of identifying the commander's

training objectives. These should focus on exercising his battalion METL and supporting-staff battle tasks it is essential to do this if the constructive simulation exercise is to have training value. This allows the software-systems manager to advise the commander on how best to structure the exercise in order to meet his objectives. CA 2 and CS 2's commander's comments in the survey-instrument analysis demonstrate that they seemed to understand this important aspect. CA 1 discounts the value of constructive simulations and CS 1 focused on its ability to integrate the decision-making process into the staff experience. Lack of commander involvement during the exercise suggests both a lack of understanding of the capabilities of the constructive simulations as well as a lack of prior preparation. This led to a failure to maximize the systems capabilities. Additionally, none of the commanders used the constructive-simulation exercise as a precursor to a field-training exercise.

The belief that there is no link between constructive simulation participation and either the TAM or USR's assessment of readiness also played a significant role. Commanders at all levels felt the stress of the on-going rate of operations and the need to focus on those items that were "grade cards" for commanders. The USR is certainly one of them. The TAM's utilization seemed dependent on the chain-of-command's efforts to check on its implementation. It is also not clear at all whether the two combat-arms organizations even maintained a current TAM. The TAM, it seems, is just another administrative requirement (and training distractor). Commanders do not believe the TAM increases readiness.

If the goal of constructive simulations is to provide the staff with real-time and realistic combat stresses that exercise its ability to react using normal staff procedures, then it apparently is successful, based on the feedback received from the commanders and S3's on the survey instrument. However, neither Commanders nor S3s addressed the constructive simulation's ability to improve individual soldier skills or sharpen collective-training skills as prioritized on the Battalion's METL and battle-staff-supporting collective tasks. Krueger argues that the optimal training objectives for constructive simulations are exercising unit TACSOPs and tracking battle-related activities in both the TOC and ALOC. In each of the organizations that had either the commander or the S3 participate in the constructive simulation exercise,

the value of constructive simulations for exercising the TACSOP and tracking battle-related activity was noted. Once again, Krueger's insights are supported by this research, even if his prescriptions are not being followed by the units examined.

General Reimer reminds commanders that:

In developing a training strategy, each commander must maximize the appropriate simulations and simulators. We can no longer afford to treat simulations and simulators as enhancements. The Army is committed to getting the most out of each. We must trust simulations and simulators, treat them as trade-off to other more expensive training and figure out how to get the most training transfer from each training opportunity. (DA 1997b, 1-1)

Therefore, commanders need to understand fully the capabilities of the simulation systems available to them if they are to make the best use out of these tools. I argue that commanders are not making the best use of the system's capabilities. In three of the four battalions the METL development process was not completed prior to the training. Had each of the battalions completed the development of their METL's and supporting-staff battle tasks and focused on these priority training requirements, the outcomes could have been significantly different. Is this attributed to commanders consciously subverting the National Military Strategy? It is doubtful; it is more likely that commanders and S3s are inadequately trained in regards to Army's doctrine regarding training the force.

This research doesn't support the claim that constructive simulations enhance readiness sufficiently to satisfy active-component concerns regarding its ability to deploy combat-ready units within the existing timelines. If constructive simulation participation does not result in enhanced readiness, perhaps the Army should revisit its beliefs about the value of constructive simulations. If no relationship is present then this research raises concerns about the value of constructive simulations. Reserve-component desires to make constructive simulations the "magic pill" to enhancing readiness and thereby suggesting a larger reliance on the reserve components is, at best, ill advised at this stage.

This research suggests that the value of constructive simulations as a training tool is limited by difficulties in properly preparing for their use. In particular, the lack of prioritized METLs resulted in unfocused constructive simulation exercises. Overhead requirements and other training distractors resulted in only partial participation by key staff.

Ultimately, I conclude that constructive simulations (as they are being presently employed) do not enhance readiness, either as assessed by the Training Assessment Model or by the Unit Status Report. Ignorance regarding the value of having a completed METL and supporting-staff battle tasks and their critical role in effectively using constructive simulations negates any potential for constructive simulations to enhance collective-training readiness.

Overall, the reserve component needs to insure that constructive simulations are adequately resourced, properly run, and enthusiastically participated in if they are to fulfill their promise. General Reimer's clear guidance to commanders to figure out how to get the most training out of each opportunity is not yet fully implemented.:

APPENDIX A. BATTLE COMMAND TRAINING PROGRAMS (BCTP) SIMULATION SURVEY

Background

1. Which battalion are you assigned to? _____
2. Which best describes your current role in the battalion (Please circle one)?
 - a. Battalion Commander – Traditional Guard Soldier
 - b. Battalion Commander – Full Time Support
 - c. S3 – Traditional Guard Soldier
 - d. S3 – Full Time Support
3. When your organization last participated in a BBS exercise, did you participate in this duty position (please circle one answer)? If no, please elaborate.
 - a. Yes
 - b. No (Why not? Who assumed the role of the Commander or S3?)

METL Evaluation

4. Did you take into consideration any of the oral or written After Action Review (AAR) comments (from the BBS exercise) when you updated your Units Mission Essential Task List (METL)? How important were these comments? Please elaborate.
5. What other inputs did you use to determine how you would assess your unit's proficiency on METL tasks? Please elaborate.

BBS Participation

6. Was your unit's participation in a BBS simulation exercise productive? Did it facilitate your organization's ability to exercise itself in a doctrinally sound manner? In what ways was it productive? In what ways was it non-productive? Please elaborate.
7. What other types of training events would have the same training value? Please elaborate.
8. How often has your organization participated in a BBS driven exercise since 1 January 1995? Is this (frequency) adequate to meet your needs in maintaining readiness goals of C-3 or better? Why or Why not? Please elaborate.

BBS Evaluation

9. Would you consider your participation in the BBS simulation exercise to be:
- a) A training distracter?
 - b) A readiness enhancer?
 - c) A readiness maintainer?
- Why? Please elaborate.
10. Does participation in a BBS exercise enhance your organizations Command and Control capabilities? Why or Why not? Please elaborate.

TAM/USR Assessment

11. Did participation in a BBS simulation exercise play a significant role in your evaluation of the unit's METL (in regards to the TAM or USR reports)? Please elaborate.
12. How much do you attribute your last participation (in a BBS simulation exercise) to the C level rating that you reported in the training data fields of your USR? Please elaborate.
13. Has participation in a BBS exercise enhanced your unit's overall readiness level? Why or Why not? Please elaborate.
14. Has your participation in a BBS exercise ever been used as method for receiving an external evaluation? What was its impact? Is this a legitimate use of the BBS simulation exercise environment? Should it replace the current methodology for conducting external evaluations? Why or Why not? Please elaborate.
15. Do you think there is a link between BBS participation and the USR? Is this money well spent? Please elaborate.

APPENDIX B. BATTLE COMMAND TRAINING PROGRAM (BCTP)

There are three echelons to the Battle Command Training Program (BCTP). The first echelon is also just called BCTP. The primary goal of BCTP simulations is to develop leadership expertise and information-management capabilities during large-unit operations, as well as exercising Command and Control (C2), decision-making, and staff-integration concepts. Enhanced Brigade (E-Bde) commanders and their staffs are expected to participate in a BCTP exercise at least once during a commander's tour (enhanced brigades receive the highest priority for training support and resources, as they are early-deploying units). BCTP is the primary training simulation for ARNG's combat-arms Divisions. (FORSCOM 1995, 11)

The second echelon of training on the simulation ladder is the Brigade Command and Battle Staff Training (BCBST). The simulation is driven by Brigade/Battalion Battlefield Simulation (BBS) exercises conducted by units lower on the simulation requirement ladder. Just as BCTP develops leadership skills, BCBST promotes expertise in brigade and battalion operations, command and control, decision-making, and staff development. (FORSCOM 1995, 11)

The last echelon is Battle Command and Staff Training (BCST). BCST exercises all non-divisional brigades, groups, and battalion/squadron commanders and their battle staffs. BBS is the primary exercise driver for these units. (FORSCOM 1995, 11)

Figure B.1 (Command and Staff Training Program) shows (by echelon of BCTP simulation) what the objectives are, who the training audience is, the frequency of training (including exercise duration), which constructive simulations are used, and who is responsible for providing them.

Program	Objective	Training Audience	Frequency/Length of Training	Simulations used/ furnished by
BCTP (Battle Command Training Program)	Furnishes Team Building Seminars, Challenging Warfighter Exercises and Post-Exercises Sustainment Packages	E-Bde and Bn Cdrs and Staffs with associated AC Divisions	Once during a Cdrs tour// 5-day Seminar 5-day Warfighter (a BCBST should be performed during the Year proceeding a BCTP)	CBS// CAC-T (Seminar at Fort Leavenworth Warfighter at Home Station of Associated AC Division)
		ARNG Division Staffs	Triennially	
BCBST (Brigade Command and Battle Staff Training)	Enhance understanding of current doctrine, tactics and techniques, opportunities for Command Team to strengthen Decision-Making Process	E-Bde and Bn Cdrs and Staffs	Annually (unless participating in BCTP/CTC) 5-day Seminar 2.5 days (MUTA 5)	BBS/Janus// CAC-T (Seminar at Fort Leavenworth; CPX at Home Station)
		Division, Bde And Staffs	Once every 3 to 5 years 5-day seminar 5-day CPX	
BCST (Battle Command Staff Training)	Exercises all Brigades and Battalion Cdrs and Battle Staffs	FSP Support Pkg 1 – 7 E-Bde and BN Cdrs and Staffs	Annually 2.5 days (MUTA 5)	CBS/BBS/Janus Div (EX) at Home Station
		All other Bdes, Gps, Bns and Regiments	Biennially 2.5 days (MUTA 5)	

Figure B.1 Command and Staff Training Program (FORSCOM 1995, 14)

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